

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Conditions Imposed in the Charter
Communications-Time Warner Cable-
Bright House Networks Order

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) WC Docket No. 16-197
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REPLY OF CHARTER COMMUNICATIONS, INC.

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INTRODUCTION

In its Petition, Charter Communications, Inc. (“Charter”) presented compelling evidence that two of the conditions the Federal Communications Commission imposed to protect online video distributors (“OVDs”) when it approved Charter’s 2016 merger¹ are no longer in the public interest.² Charter provided copious data that the marketplace for streaming video—featuring trillion dollar companies like Apple and Google as well as other household names like Netflix and Disney—has exploded since the Conditions were established in 2016. And it explained that this is exactly what the Commission predicted might happen when it included in the Conditions a mechanism to sunset them after five years (instead of automatically after seven) if they no longer served the public interest. Marketplace developments have confirmed that the Conditions are outdated and counterproductive and that the DC/UBP and interconnection policies of other broadband providers have had no effect on OVDs’ ability to continue to flourish. Therefore, the Wireline Competition Bureau (“Commission”) should allow Charter to operate under the same rules as its competitors by sunsetting the DC/UBP and Interconnection Conditions after five years.

Charter has made it clear that the outcome of this Petition will not change its business, marketing, or products strategies, leaving some curious why it would file the petition at all. The answer lies in the framework laid out in the *Merger Order*. Specifically, the Commission required Charter to file this Petition between May 18 and August 18, 2020 if Charter wanted to preserve the option of sunsetting the Conditions after five years. Charter’s only two options were to file now or risk needing the flexibility to operate without the regulatory weight of the Conditions two

¹ See *In re Applications of Charter Communications, Inc., Time Warner Cable Inc., And Advance/Newhouse Partnership For Consent to Assign or Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 31 FCC Rcd 6327 (2016) (“*Merger Order*”).

² As explained in Charter’s Petition, these include the Data Caps/Usage-Based Pricing (“DC/UBP”) and Settlement-Free Interconnection (“Interconnection”) Conditions (collectively, “Conditions”).

years from now and not having it. Charter is in a highly competitive industry that changes quickly, as detailed below and in the Petition. The timing for this Petition coincided with a global pandemic, reminding everyone how quickly, completely, and unexpectedly the environment can change, and Charter wants to ensure it has the flexibility it may need to deliver superior products and services to its customers.

While a few entities offered standard filings opposing Charter's Petition, they failed to offer any relevant and cogent reasons why Charter should be subjected to these unnecessary and burdensome restrictions for another two years. Even the opponents must concede the extraordinary growth of the OVD market. Instead, they offer incorrect, unsubstantiated, and irrelevant arguments that the Commission should reject.

To begin with, in just the seven weeks since Charter filed its Petition, OVDs have continued to demonstrate their unbridled success and dominant position in the marketplace. And they have continued to do so in an environment where other broadband providers are not subject to these restrictions and most employ some form of usage-based pricing and negotiate their interconnection agreements. The reason for this success is straightforward: OVDs drive demand for broadband services and have gained tremendous negotiating power, as many have grown far larger than Charter itself, so Charter and other broadband providers have no incentive and no ability to discriminate against them.

Further negating the need for the Conditions is the market for consumer broadband internet access service ("BIAS"), which is growing more competitive. The fact that Charter's BIAS business depends on OVDs is reason enough to sunset the Conditions. But the rise in BIAS competition provides an additional reason. Given the competitive pressures Charter faces, it

cannot afford to hand its competitors any advantage, including by restricting access to OVDs. Consumers and the market would not tolerate this behavior.

In addition to being unnecessary, the Conditions put Charter at a competitive disadvantage. Other Internet Service Providers (“ISPs”) have found usage-based pricing and negotiated interconnection agreements to be important tools for efficiently delivering traffic and allocating the costs of expanding and maintaining a provider’s network in response to ever-increasing usage. Charter’s competitors have deployed these tools for several years, and the evidence shows that market dynamics are more than capable of constraining their anticompetitive use.

Finally, the Commission should grant Charter’s Petition expeditiously and dismiss irrelevant arguments offered by some opponents. The Commission has given interested parties ample time to comment on the Petition, and it has all the evidence it needs to conclude that the DC/UBP and Interconnection Conditions no longer serve the public interest.

The Commission should therefore sunset the Conditions on May 18, 2021, as it allowed for when imposing them years ago.

ARGUMENT

I. THE CONDITIONS WERE PUT IN PLACE TO ENSURE THE VIABILITY OF OVDs, AND THE RECORD CONFIRMS THEY ARE THRIVING.

Charter and other commenters have submitted copious evidence that the Commission’s main rationale for adopting the Conditions—ensuring the viability of OVDs—is outdated and has no place in today’s marketplace. As Charter detailed in its Petition, OVDs have experienced record-shattering growth since 2016 by every relevant metric—including subscribership, number of entrants, streaming hours, revenue, and quality.³ Consumers in the United States now have

³ See Petition of Charter Communications, Inc. at 10-19, WC Docket No. 16-197 (June 17, 2020) (“Petition”).

access to at least 140 distinct OVDs, and at least 41 major OVDs have hit the market since 2016.⁴ OVDs like Netflix and YouTube have become household names,⁵ with more 18-to-49 year-olds visiting YouTube on mobile devices than any TV network.⁶ Some of the most popular and powerful companies in the world—Amazon, Apple, AT&T, Disney, and Google—now back their own successful streaming services.⁷ And OVDs have consequently become formidable actors in the marketplace.⁸

The unstoppable march of OVDs has accelerated even in the seven weeks since Charter filed its Petition:

- Netflix’s subscriber growth in the first half of 2020 is up 117%, as compared to the first half of 2019;⁹

⁴ See Declaration of Jeffrey A. Eisenach ¶ 21 (“Eisenach Decl.”), attached as Exhibit A.

⁵ See *In re Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd 311, 414-15 ¶ 171 (2018) (“*Restoring Internet Freedom Order*”) (“In any event, there is ample evidence that major edge providers, including Netflix, YouTube, and other large OVDs, are some of the ‘most-loved’ brands in the world.”), *vacated by Mozilla Corp. v. FCC*, 940 F.3d 1 (D.C. Cir. 2019).

⁶ See Kit Smith, *57 Fascinating and Incredible YouTube Statistics*, Brandwatch (Feb. 21, 2020), <https://www.brandwatch.com/blog/youtube-stats/>.

⁷ Petition at 10-13; *see also*, *In re Communications Marketplace Report*, Report, 33 FCC Rcd 12,558, 12,606-07 ¶ 78 (2018) (“*2018 Communications Marketplace Report*”).

⁸ Petition at 20-21 (noting that the vast majority of Charter’s subscribers now subscribe to one or more OVD services like Netflix, Amazon Prime, or Hulu); *see also* Harold Furchtgott-Roth & Kirk Arner, *While Streaming Soars, Regulation Strangles Media Incumbents*, RealClearMarkets (Aug. 4, 2020), https://www.realclearmarkets.com/articles/2020/08/04/while_streaming_soars_regulation_strangles_media_incumbents_500925.html (“Today, Netflix and other OTT players dominate the media landscape, both in eyeballs and relevance.”). Indeed, the combined market capitalization of Amazon, Apple, Facebook, and Google is \$4.8 trillion—larger than the GDP of all but three countries in the world (The United States, China, and Japan). *See* Bruce Mehlman, *TECH CEO SUMMER SUPERBOWL: July 29, 2020 Hearings*, Slide 4 (July 29, 2020), https://mehlman.castagnetti.com/wp-content/uploads/Tech-CEO-Summer-Superbowl-July2020.pdf?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosam&stream=top.

⁹ Netflix, Letter to Shareholders (July 16, 2020), https://s22.q4cdn.com/959853165/files/doc_financials/2020/q2/FINAL-Q2-20-Shareholder-Letter-V3-with-Tables.pdf.

- Netflix broke the record for most Emmy nominations ever (a record previously held by HBO, which now operates as a major OVD),¹⁰ and it is premiering dozens of new series, movies, and documentaries on its platform this summer;¹¹
- Comcast's Peacock, which launched nationwide just three weeks ago has already surpassed 10 million sign-ups;¹²
- The debut of "Hamilton" on Disney+ drove a 74% increase in app downloads for the service in the United States for the month of June;¹³
- Disney+ also recently surpassed over 60.5 million paid subscribers globally;¹⁴
- Verizon has touted its partnership with Disney+ as a "key differentiator" for its Verizon FiOS service, demonstrating that broadband providers continue to seek out ways to integrate popular OVDs into their platforms;¹⁵ and
- The recent launch of HBO Max exceeded expectations by garnering 3 million retail subscribers and 70% more viewer engagement than HBO NOW.¹⁶

This exponential growth has been driven by consumer demand for OVD content, not by regulatory intervention by the Commission.¹⁷ Indeed, the expansion of the OVD marketplace has

¹⁰ John Koblin, *Netflix Breaks HBO's Record for the Most Emmy Nominations Ever*, N.Y. Times (July 28, 2020), https://www.nytimes.com/2020/07/28/arts/television/emmy-nominations.html?campaign_id=9&emc=edit_nn_20200729&instance_id=20734&nl=themorning®i_id=113575608&segment_id=34620&te=1&user_id=2026f41478f6cc5e020ab68d7294a81d.

¹¹ Julia Alexander, *Netflix is Straight Up Flexing at This Point*, Verge (June 24, 2020), <https://www.theverge.com/2020/6/24/21301959/netflix-july-2020-originals-licensed-tv-movies-competitors>.

¹² Comcast Corp. Q2 20 Earnings Call Transcript (July 30, 2020), <https://www.cmcsa.com/static-files/344c4cee-d0c5-4bdb-8cd1-491619c69654>.

¹³ Sara Fischer & Neal Rothschild, *"Hamilton" is a Streaming Hit for Disney+*, Axios (July 7, 2020), <https://www.axios.com/hamilton-disney-plus-streaming-viewership-55f1aaf0-c6e1-430f-9263-fa8145075ed5.html>.

¹⁴ Walt Disney Co. Q3 20 Earnings Call Transcript (Aug. 4, 2020), <https://www.fool.com/earnings/call-transcripts/2020/08/05/walt-disney-dis-q3-2020-earnings-call-transcript.aspx>.

¹⁵ Verizon Q2 20 Earnings Call Transcript (July 24, 2020), https://www.verizon.com/about/system/files/2020-2q-VZ-transcript_0.pdf ("Verizon Q2 20 Earnings Call Transcript").

¹⁶ AT&T Q2 20 Earnings Call Transcript (July 23, 2020), <https://investors.att.com/~media/Files/A/ATT-IR/financial-reports/quarterly-earnings/2020/q2-2020/Final%20Q20%20earnings%20transcript%2072320.pdf>.

¹⁷ See Petition at 15-16; *Restoring Internet Freedom Order*, 33 FCC Rcd at 374 ¶ 107 ("the record does not suggest a correlation between edge provider investment and Title II regulation, nor does it suggest a causal relationship that edge providers have increased their investments as a result of the *Title II Order*").

continued unabated since 2018, when the Commission ended utility-style regulation of the internet in its *Restoring Internet Freedom Order*.¹⁸ As the Commission anticipated then, and as evidenced by the facts now, Charter and other broadband providers have responded to this consumer demand by giving their subscribers more access to the OVD content they want—investing billions of dollars to expand their networks, increase download speeds, and integrate unaffiliated OVDs onto their platforms.¹⁹ All of this is beyond dispute, and the general trends in the OVD marketplace have been well documented by the Commission.²⁰ Unsurprisingly, then, commenters make no real effort to dispute the realities of the current OVD marketplace and, in fact, generally acknowledge the fact that OVDs are thriving.²¹

Rather than contend with the vibrancy of the OVD marketplace, opponents either recycle the same old arguments the Commission rejected in the *Restoring Internet Freedom Order* or speculate about the risk of anti-competitive behavior. For example, INCOMPAS suggests that, despite the smashing success of major OVDs like Netflix, Charter might still have some lingering incentive to harm smaller OVDs that do not have the same bargaining power.²² But that is simply

¹⁸ *Restoring Internet Freedom Order*, 33 FCC Rcd at 312 ¶ 2.

¹⁹ *Id.* at 378-79 ¶ 117 (“ISPs themselves recognize that their businesses depend on their customers’ demand for edge content”); Petition at 19-21.

²⁰ See, e.g., *2018 Communications Marketplace Report*, 33 FCC Rcd at 12,606-12, 12,624 ¶¶ 76-89, 124; *Restoring Internet Freedom Order*, 33 FCC Rcd at 378-79 ¶ 117 (“ISPs themselves recognize that their businesses depend on their customers’ demand for edge content”), *id.* at 411-12 ¶ 168 (noting that the dispute resolution process for interconnection had gone unused “even as OVDs . . . have proliferated.”), *id.* at 414-15 ¶ 171 (“edge providers, including OVDs, are complementary to ISPs’ broadband business, and reducing the value of these complementary products would harm ISPs by reducing demand for their services.”).

²¹ See, e.g., INCOMPAS Petition to Deny at 15-20, WC Docket No. 16-197 (July 22, 2020) (“INCOMPAS Petition to Deny”); Comments of Writers Guild of America, West, Inc., WC Docket No. 16-197 at 6 (July 22, 2020) (“WGAW Comments”). These developments—not speculation—are the best evidence there is that the Conditions are unnecessary in today’s marketplace.

²² See INCOMPAS Petition to Deny at 19.

not the case, for the reasons already mentioned. Broadband providers have improved access to edge content not just because larger OVDs have gained bargaining power, but because broadband providers' success depends on meeting their subscribers' demand for that content. Limiting access to edge content that consumers want is therefore bad for Charter's business, regardless of whether the edge provider is large or small. OVDs of all sizes and stripes continue to emerge and attract large followings even in the absence of industry-wide restrictions on usage and interconnection policies,²³ and opponents cite no evidence of broadband providers acting to harm smaller OVDs.

INCOMPAS also suggests that OVD growth might have been *even more* staggering—if only the Commission had imposed similar restrictions on all broadband providers.²⁴ Like so many of the arguments against Charter's Petition, this is nothing but unfounded speculation, not to mention being against Commission policy.²⁵ Charter has demonstrated that OVDs have enjoyed unprecedented, exponential growth in a market where every broadband provider except Charter is free to adopt usage policies and negotiate their own interconnection agreements.

OVDs are the main drivers of internet traffic today, and they are the most relevant edge providers in the internet ecosystem.²⁶ The fact that OVDs are thriving is a key indicator that the overall market for edge content is functioning quite well. That, coupled with basic facts about broadband providers' incentives and the increasing competitiveness of the market for broadband

²³ See, e.g., Michael Balderston, *fuboTV Touts Subscriber, Revenue Growth in Q1 2020*, TVTechnology (July 8, 2020), <https://www.tvtechnology.com/news/fubotv-touts-subscriber-revenue-growth-in-q1-2020>.

²⁴ See INCOMPAS Petition to Deny at 15-17.

²⁵ See *Restoring Internet Freedom Order*, 33 FCC Rcd at 379-80 ¶ 118.

²⁶ See, e.g., Press Release, Sandvine, *Sandvine releases 2019 Global Internet Phenomena Report* (Sept. 10, 2019), <https://www.sandvine.com/press-releases/sandvine-releases-2019-global-internet-phenomena-report> (reporting that video accounts for over 60% of total downstream traffic).

services (both discussed in greater detail below), shows that the DC/UBP and Interconnection Conditions are unnecessary.

II. CHARTER HAS DEMONSTRATED THAT THE CONDITIONS ARE NO LONGER NEEDED TO PROTECT THE OVD MARKETPLACE.

A. Charter's Incentive Is to Support Its Broadband Business, Which Relies on Consumer Demand for OVDs.

Charter has no incentive to harm OVDs for the simple reason that they are essential to its most important business—broadband.²⁷ This is even truer today than it was five years ago. For example, in 2016, Charter had approximately 21.4 million residential BIAS customers, compared to 16.7 million residential video subscribers.²⁸ Three years later, that gap has widened significantly. By the end of 2019, Charter's residential BIAS customers grew to approximately 24.9 million, while residential video subscribership fell to approximately 15.6 million.²⁹ Those trends have continued through the second quarter of 2020: residential BIAS customers have grown to approximately 26.3 million, while residential video customers have grown modestly to approximately 15.7 million.³⁰ In short, while video remains an important component of the business, Charter's future will be driven by the success of its broadband service.³¹ Indeed, Charter presents itself to customers first and foremost as a broadband provider.³² Contrary to the assertions

²⁷ Eisenach Decl. ¶¶ 40-42.

²⁸ Charter, Customer Metrics, 2Q2018 Trending Schedule at 1, <https://ir.charter.com/static-files/17babd08-2d2d-4a67-9565-5982d7ac9533>.

²⁹ Charter, 2019 Annual Report at 10 (2020), <https://ir.charter.com/static-files/b453964b-6b96-4fb8-aebc-91cec0fda968>.

³⁰ Charter, Customer Metrics, 2Q2020 Trending Schedule at 1, <https://ir.charter.com/static-files/d1cc5751-d268-4acb-8d31-04a3c30253cc> (released July 31, 2020).

³¹ Public Interest Statement at 2-7, MB Docket No. 15-149 (June 25, 2015).

³² Eisenach Decl. ¶¶ 33, 35-36.

of Opponents,³³ then, it makes no business sense for Charter to harm OVDs or reduce its subscribers' access to the edge content they want when edge providers drive demand for Charter's broadband services.

Opponents' arguments to the contrary rely on the same fundamental misunderstanding of the market that the Commission dispelled in the *Restoring Internet Freedom Order*. Opponents generally proceed by citing the Commission's flawed analysis of Charter's incentives from 2016 and then insisting—without evidence—that nothing has changed in the intervening four years.³⁴ But in fact, a lot has changed. In addition to the explosion of OVDs and growth of broadband competition (described more fully below in section II.B), the Commission's policies and understanding of the market has evolved. At the time of the *Merger Order*, the Commission still believed that broadband providers were incentivized to act as gatekeepers and adopt policies designed to harm edge providers. For that reason, the Commission mistakenly concluded that data caps and usage-based pricing were suspect and that interconnection fees should be forbidden. Even in its heyday, the economic analysis on which the Commission relied “was at best only loosely based on the existing economics literature, in some cases contradicted peer-reviewed economics literature, and included virtually no empirical evidence.”³⁵

Since then, the Commission has come to recognize, and recent history has proven, that Charter and other broadband providers have strong economic incentives to preserve openness, and

³³ See, e.g., Comments of New America's Open Technology Institute at 3-4, WC Docket No. 16-197 (July 22, 2020) (“OTI Comments”); Comments of Newsmax Media, Inc. at 4-9, WC Docket No. 16-197 (July 22, 2020) (“Newsmax Comments”); WGAW Comments at 8-9.

³⁴ See INCOMPAS Petition to Deny at 4-6; Opposition To Petition by Charter Communications of Public Knowledge and Sports Fans Coalition at 2-4, WC Docket No. 16-197 (July 22, 2020) (“PKSFC Opposition”); Comments of Stop The Cap at 3-5, WC Docket No. 16-197 (July 22, 2020) (“Stop The Cap Comments”); WGAW Comments at 3-9.

³⁵ *Restoring Internet Freedom Order*, 33 FCC Rcd at 379 ¶ 118.

that the market should determine these issues. As the Commission recognized in the *Restoring Internet Freedom Order*, broadband service is a two-sided market in which providers act as a platform facilitating interactions between consumers and edge providers.³⁶ Providers benefit by fostering more engagement with their networks, including by encouraging their subscribers to consume more edge content and by facilitating growth in the number and quality of edge providers.³⁷ “ISPs themselves recognize that their businesses depend on their customers’ demand for edge content,” the Commission explained, whereas “reducing the value of these complementary products would harm ISPs by reducing demand for their services.”³⁸ As a result, basic market dynamics strongly discourage broadband providers from hampering the growth of OVDs or limiting their subscribers’ access to edge content. Instead, broadband providers have the incentive to invest heavily in expanding their networks, increasing speeds, and promoting more and more consumer engagement with edge content.

This is exactly what Charter has done over the past four years. As described at length in the Petition, Charter has invested billions of dollars to expand the capacity and reach of its network, introduced 1 Gbps speeds across virtually its entire footprint, and integrated unaffiliated OVDs onto its platform.³⁹ These are the actions one would expect from a broadband provider operating in a properly functioning market, and it confirms what the Commission has known for years: there is no need to impose heavy-handed regulation on broadband providers in order to promote investment and growth at the edge. Opponents make no real effort to contest any of these facts.

³⁶ *Id.* at 380 ¶ 119.

³⁷ *See id.*

³⁸ *Id.* at 378-79, 415 ¶¶ 117, 171.

³⁹ *See* Petition at 19-20.

B. No Particular Level of BIAS Competition Is Required to Sunset the Conditions, and BIAS Options Are Growing.

Opponents' claims that the BIAS market is not competitive are beside the point and overstated. The Conditions are unnecessary regardless of the level of BIAS competition because Charter, like other broadband providers, lacks the incentive or ability to discriminate against OVDs. OVDs are critical to the BIAS business and far too large and powerful to thwart with data caps or interconnection fees, as explained above and by Dr. Eisenach.⁴⁰

In addition, as the Commission has recognized, BIAS options are expanding. The more important connectivity becomes, the more interest, investment, innovation, and disruption is seen in the expanding BIAS marketplace. The Commission has noted that the vast majority of households now have access to multiple fixed wireline BIAS providers,⁴¹ and competition between broadband providers is increasing. Mobile providers are rolling out 5G service across the country, and satellite providers are launching competitive 100 Mbps services nationwide.⁴² The Commission has also recognized that approximately 79% of all households have access to at least two wireline providers.⁴³ And relying on 2017 data, the Office of Economics and Analytics

⁴⁰ See Eisenach Decl. ¶¶ 40-42.

⁴¹ See, e.g., *2018 Communications Marketplace Report*, 33 FCC Rcd at 12,606-12, 12,624 ¶¶ 76-89, 124; Industry Analysis Division, Office of Economics & Analytics, *Internet Access Services: Status as of December 31, 2017* at 5-6 (Aug. 2019), <https://docs.fcc.gov/public/attachments/DOC-359342A1.pdf> ("*Internet Access Services: Status as of December 31, 2017*") (charting the growth in connection speeds from December 2014 through December 2017); cf. *New York v. Deutsche Telekom AG*, 439 F. Supp. 3d 179, 190 (S.D.N.Y. 2020) (finding that consumers choose mobile wireless providers based on, among other things, "the speeds and consistency of coverage provided by those networks").

⁴² See, e.g., *In re Applications of T-Mobile US, Inc., and Sprint Corporation For Consent To Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, Declaratory Ruling, and Order of Proposed Modification, 34 FCC Rcd 10,578, 10,581-82 ¶ 7 (2019) ("*T-Mobile Order*"); Press Release, Viasat, Inc., *Viasat Announces Highest-Speed, Unlimited Satellite Internet Service – Nationwide* (Feb. 28, 2018), <https://www.viasat.com/news/viasat-announces-highest-speed-unlimited-satellite-internet-service-nationwide>.

⁴³ *Restoring Internet Freedom Order*, 33 FCC Rcd at 385 ¶ 127.

recently reported that, for census blocks where there is any deployment of residential fixed broadband, at least two broadband providers are operating in approximately 96% of those blocks (with three or more providers operating in approximately 73% of those blocks).⁴⁴

As Dr. Eisenach explains in his declaration, BIAS offerings are expanding on three fronts: mobile broadband, the entry and expansion of other fixed residential broadband ISPs, and the continuing emergence of mobile and fixed 5G networks by competitors like Verizon, AT&T, and T-Mobile in communities across the country.⁴⁵ This also does not account for intermodal competition from mobile broadband providers, which consumers now view as a close substitute for fixed BIAS.⁴⁶ Indeed, access to mobile broadband is “increasingly cited as a reason for not having a high-speed internet connection at home.”⁴⁷ Competition from major carriers like AT&T, T-Mobile, and Verizon will accelerate in the near future as these carriers continue to expand their 5G networks nationwide.⁴⁸ Just two weeks ago, Verizon confirmed to investors that it is on track with its plan for 5G nationwide coverage.⁴⁹ Charter also competes with satellite providers, some

⁴⁴ *Internet Access Services: Status as of December 31, 2017* at 6.

⁴⁵ Eisenach Decl. ¶ 43; *see also* Press Release, AT&T Inc., *AT&T 5G. Today Nationwide*. (July 23, 2020), https://about.att.com/story/2020/att_5g_nationwide.html; Press Release, T-Mobile US, Inc., *T-Mobile is First with 5G in all 50 States!* (June 1, 2020), <https://investor.t-mobile.com/news-and-events/t-mobile-us-press-releases/press-release-details/2020/T-Mobile-is-First-with-5G-in-all-50-States/default.aspx>.

⁴⁶ Eisenach Decl. ¶¶ 44-47.

⁴⁷ *Id.* ¶ 45 (quoting Monica Anderson, *Mobile Technology and Home Broadband 2019*, Pew Research (June 13, 2019)).

⁴⁸ *Id.* ¶ 52 n.91 (quoting *In re Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 2020 Broadband Deployment Report, GN Docket No. 19-285, FCC 20-50 ¶ 2 (rel. Apr. 24, 2020)); *see supra* note 42.

⁴⁹ Verizon Q2 20 Earnings Call Transcript (“Remember, in February, we made some bold statements about our deployment of 5G in 2020, all the way from mobile edge compute, 5G Home cities, 5x more small cells on 5G and some 60 cities on 5G Ultra Wideband as well as a nationwide coverage on 5G with DSS [dynamic spectrum sharing]. I’m happy to report we’re on track on that and in some cases, even ahead of the plan.”).

of whom are now in the process of launching 100 Mbps service nationwide.⁵⁰ At the end of the day, BIAS providers' efforts to attract and retain customers is indicative of increasing competition,⁵¹ and consumers are the beneficiaries. This is just another reason Charter would not discriminate against the OVDs and edge content that consumers want.

C. Opponents Are Wrong that Charter Has “Gatekeeper” Power.

Contrary to Opponents' claims, Charter lacks “gatekeeper” power over the OVD market.⁵² As a threshold matter, the Commission has rejected the “gatekeeper” theory since it approved the *Merger Order*, concluding that the theory is a “poor fit” as applied to the BIAS market.⁵³ The Commission instead recognized that the market was two-sided, with intermediaries like an internet service provider facilitating interactions between edge providers and end users.⁵⁴ As applied here, this means Charter must respond to both the OVDs and its own subscribers as it operates its network. Charter has neither the market power nor the incentive to stymie the OVDs, which provide the increasing amount of video content Charter's BIAS customers demand.

Finally, edge providers have even more access than in 2016 for delivering their content to Charter's subscribers,⁵⁵ including additional content delivery networks (“CDNs”), peer networks,

⁵⁰ See *2018 Communications Marketplace Report*, 33 FCC Rcd at 12,648-49 ¶ 178. And satellite competition is expected to increase significantly in the near future as deep-pocketed Amazon and SpaceX launch their own versions of satellite broadband. See, e.g., John Brodtkin, *Amazon investing \$10 billion to compete against SpaceX in satellite broadband*, Ars Technica (July 31, 2020), <https://arstechnica.com/information-technology/2020/07/amazon-gets-fcc-approval-to-launch-3236-low-earth-broadband-satellites/>.

⁵¹ See *Restoring Internet Freedom Order*, 33 FCC Rcd at 385-87 ¶ 128.

⁵² See *id.* at 378-80 ¶¶ 117-118.

⁵³ *Id.* at 363 ¶ 87.

⁵⁴ *Id.* at 380 ¶ 119.

⁵⁵ See Chris Arkenberg et al., *Coming to a CDN near you: Videos, games, and much, much more*, Deloitte Insight (Dec. 9, 2019), <https://www2.deloitte.com/us/en/insights/industry/technology/technology-media-and-telecom-predictions/2020/content-delivery-networks-video-streaming.html> (discussing the growth in CDNs);

and transit providers. And, contrary to INCOMPAS's claims,⁵⁶ the rationale for sunseting the Interconnection Condition does apply to CDNs and other connection options. CDNs, peer networks, and transit providers carrying OVD traffic will still be able to reach Charter's subscribers absent the Interconnection Condition for the same reasons that the OVDs themselves will be able to: Charter lacks the incentive to discriminate against edge providers.⁵⁷ As the Commission noted, there are also reasons to believe that interconnection alternatives will thrive with increased broadband competition and a light-touch regulatory framework that will spur further investment and innovation.⁵⁸

D. The OVD Marketplace Is Flourishing Even Without Broad Market Restrictions on Data Caps/UBP and Paid Interconnection.

Opponents provide no persuasive arguments to rebut the fact that OVDs are thriving in a marketplace that *already* operates using data caps/usage-based pricing mechanisms and paid interconnection. As Charter pointed out in its Petition, many of the largest consumer BIAS providers in this country have offered broadband plans with data caps or other usage-based pricing mechanisms for several years now.⁵⁹ And there is no evidence that this regulatory freedom has hurt OVDs, whose success in this period has been staggering.

Even Stop The Cap agrees that market forces constrain the use of these tools, submitting that "there is already evidence that strong competition deters the imposition of unpopular data caps

see also Restoring Internet Freedom Order, 33 FCC Rcd at 409 ¶ 164 (noting that "edge providers increasingly used CDNs and direct interconnection with ISPs").

⁵⁶ INCOMPAS Petition to Deny at 9-12.

⁵⁷ And to the extent these entities carry non-OVD traffic, Charter would have no even theoretical incentive to discriminate against them.

⁵⁸ *See Restoring Internet Freedom Order*, 33 FCC Rcd at 412-13 ¶ 169.

⁵⁹ Petition at 21-23.

or usage-based pricing schemes.”⁶⁰ Charter agrees. A blanket prohibition on data caps and usage-based pricing is therefore unnecessary, and Charter should have the same flexibility as its competitors to deploy these policies as needed in an increasingly competitive market.

Negotiated interconnection also is beneficial to managing finite network resources. According to Public Knowledge and Sports Fans Coalition, “[i]nterconnection is not free.”⁶¹ Charter once again agrees. Interconnection imposes costs related to the operation and oversight of interconnection facilities, and carrying traffic from other networks consumes finite bandwidth and imposes network burdens that must be paid for.⁶² Decisions about who should bear these costs are therefore “a proper subject for business arrangements,”⁶³ and negotiated arrangements are the most efficient way to allocate these costs and scarce network resources,⁶⁴ especially in a competitive marketplace as detailed above.

Public Knowledge and Sports Fans Coalition go on to say that Charter should be forbidden to charge *unreasonable* interconnection fees.⁶⁵ But this misses two key points. The market should determine what is reasonable, and the Interconnection Condition does not just prohibit unreasonable interconnection fees—it prohibits Charter from charging *any* fees. No opponent has offered any reason to think that this is fair or beneficial for the market.

⁶⁰ Stop The Cap Comments at 5.

⁶¹ PKSFC Opposition at 10.

⁶² Eisenach Decl. ¶¶ 58-59.

⁶³ PKSFC Opposition at 10.

⁶⁴ See *Restoring Internet Freedom Order*, 33 FCC Rcd at 412-13 ¶ 169 (“We anticipate that eliminating one-sided regulation of Internet traffic exchange and restoring regulatory parity among sophisticated commercial entities will allow the parties to more efficiently negotiate mutually-acceptable arrangements to meet end user demands for network usage.”).

⁶⁵ PKSFC Opposition at 10.

Problematic usage-based pricing and interconnection practices are also constrained by the Commission's transparency requirements, as well as consumer protection and competition laws.⁶⁶ The Commission has recognized for several years now that these existing laws are sufficient to deter anti-competitive behavior, and the Commission therefore need not impose heavy-handed regulation for the same purpose.⁶⁷ Against this backdrop, there is no justification for continuing to impose the DC/UBP and Interconnection Conditions on Charter.

E. The Conditions Deny Charter the Opportunity to Manage Its Network with the Same Flexibility as Its Competitors.

In addition to being unnecessary, both the Interconnection Condition and the DC/UBP Condition are counterproductive because they put Charter at a competitive disadvantage and could stand in the way of Charter's ability to provide the best broadband internet access service possible. While Charter currently has no plans to change its business strategy, these Conditions ultimately could harm both Charter's broadband subscribers and the public interest by removing any flexibility and forcing Charter to run its network based on arbitrary merger conditions instead of market conditions.

First, the Interconnection Condition imposes requirements unmoored to engineering realities. As Dr. Eisenach observes in his declaration, bandwidth is not an unlimited resource.⁶⁸ Yet the Interconnection Condition prevents Charter from managing bandwidth optimally by requiring Charter to build facilities to provide direct interconnection without being able to recoup

⁶⁶ *Restoring Internet Freedom Order*, 33 FCC Rcd at 313 ¶ 4 (“we find that the conduct rules are unnecessary because the transparency requirement we adopt, together with antitrust and consumer protection laws, ensures that consumers have means to take remedial action if an ISP engages in behavior inconsistent with an open Internet”), *id.* at 378, 395-96 ¶¶ 116, 142.

⁶⁷ *Restoring Internet Freedom Order*, 33 FCC Rcd at 313 ¶ 4.

⁶⁸ Eisenach Decl. ¶¶ 56, 58-59.

any of the expense, even if the market would support doing so. The Interconnection Condition also creates other technical disruptions by requiring Charter to respond to the requests of the interconnecting party to augment Charter's capacity if port utilization in either direction exceeds certain specified percentages under conditions set out in the Condition.⁶⁹ Moreover, Charter is required to accomplish any requested augmentation within 90 days and without charging the interconnecting party.⁷⁰ These blanket, inflexible and arbitrary requirements do not represent optimal network principles. While Charter of course recognizes the need to continuously update its network, interfering in Charter's efforts to manage its large, sophisticated, and evolving network creates inefficiencies that, over the long term, result in a more costly and disjointed interconnection network and, ultimately, higher prices for consumers.

Compliance with these onerous requirements is itself an additional burden, displacing resources that could otherwise be invested in network improvements and Charter's expansion of its broadband footprint. Charter must file a detailed quarterly report with the Commission, requiring information about each interconnection party with which Charter exchanges traffic, aggregate link capacity upstream and downstream information, etc. Charter has diligently met this quarterly deadline each time it was required, and has done so by maintaining both an internal company compliance officer and an independent, external compliance officer, as required in the *Merger Order*. Compliance with the reporting requirement requires substantial investment and

⁶⁹ *Merger Order*, 31 FCC Rcd at 6560-61, App'x B. Specifically, an interconnecting party can require Charter to upgrade the capacity at an interconnection point if port utilization exceeds 70% of the available capacity for a requisite period of time, or to reduce capacity if port utilization falls below 30% of the available capacity for 6 consecutive months. *Id.*

⁷⁰ *See id.* at 6561, App'x B, attach. 1 ("Neither party shall charge the other for any required augments.").

promotes an inefficient allocation of resources that constrains Charter in a way that is contrary to the public interest.

Similarly, the DC/UBP Condition prevents Charter from developing innovative service plans that are more tailored to consumers' needs. Contrary to Stop The Cap's assertion that consumers "hate" data caps,⁷¹ the marketplace currently shows that broadband service plans incorporating data caps or other usage-based pricing mechanisms are often popular when the limits are sufficiently high to satisfy the vast majority of users. In June of this year, Charter's residential data usage for internet-only customers was 600 gigabytes per month, up nearly 20% from the fourth quarter of 2019 due to pandemic-related working and learning from home.⁷² Even with this extreme usage by entire families in internet-only homes, customers are using just over half of the industry standard one terabyte cap.

The details of the current plans make clear that the market does not support unreasonable data limitations. For instance, Comcast currently offers a 1.2 TB data usage plan to residential subscribers in 28 states.⁷³ There is also evidence that some consumers—either those who do not consume a lot of data and/or those who are looking for a lower-cost plan—may want a service where prices are based on the amount of data used. Other consumers may prefer a prepaid plan

⁷¹ See Stop The Cap Comments at 1.

⁷² Charter Communications Inc. (CHTR) Q2 2020 Earnings Call Transcript, Motley Fool (July 31, 2020), <https://www.fool.com/earnings/call-transcripts/2020/07/31/charter-communications-inc-chtr-q2-2020-earnings-c.aspx> ("Charter Q2 2020 Earnings Transcript").

⁷³ See, e.g., *Frequently Asked Questions*, Comcast Xfinity, <https://dataplan.xfinity.com/faq/> (last visited Aug. 4, 2020). Under the terms of Comcast's plan, subscribers may consume up to 1.2 TB of data each month. If they go over the 1.2 TB limit and do not have an unlimited plan, they pay \$10 for each additional 50 GB of data used, though a subscriber's total monthly charges are capped at \$100. *Id.*

that can be renewed either in-store, online, or through an app.⁷⁴ Even some Opponents implicitly recognize that data caps can be used for legitimate, and arguably consumer-benefiting, ends.⁷⁵

These different plans are proliferating in the market because they offer consumers a cost-effective alternative to unlimited data plans that are more than adequate to meet their needs. The DC/UBP Condition, however, prevents Charter from keeping pace with its competitors and offering consumers the kinds of plans they are looking for. While Charter sees value in providing its service without data caps or UBP and has no plans to change that practice, Charter reasonably seeks the same flexibility that all of its competitors and peers have to manage data usage. This way if circumstances change, it has flexibility to offer the service packages its customers want.

III. THE COMMISSION SHOULD DISREGARD IRRELEVANT AND UNFOUNDED ACCUSATIONS.

Other arguments regarding Charter's supposed non-compliance with "related" conditions have no merit.

A. Charter Has an Outstanding Record of Compliance with the Commission's *Merger Order* and Claims to the Contrary Are Incorrect.

Charter has an outstanding record of compliance with the conditions in the Commission's *Merger Order*, and claims to the contrary are wrong.⁷⁶ The Commission-appointed Independent Compliance Officer ("ICO") has—without exception—found Charter to be fully in compliance

⁷⁴ See, e.g., *Xfinity Prepaid Internet*, Comcast Xfinity, <https://www.xfinityprepaid.com/prepaid-internet> (last visited Aug. 4, 2020); *Straight Up Internet*, Cox, <https://www.cox.com/residential/special-offers/straightup-prepaid-internet.html> (last visited Aug. 4, 2020).

⁷⁵ Cf. INCOMPAS Petition to Deny at 24 (noting that data caps are only "often unnecessary").

⁷⁶ See Comments of Massachusetts Attorney General's Office at 3 n.11, WC Docket No. 16-197 (July 22, 2020) ("Massachusetts Comments"); Newsmax Comments at 10-11; OTI Comments at 2-3; PKSFC Opposition at 10-11; Stop The Cap Comments at 9-10; WGAW Comments at 10-11.

with all of the Commission's *Merger Order* conditions.⁷⁷ With regard to the two Conditions at issue, the ICO in her last report again stated that Charter is in full compliance.⁷⁸

Instead of acknowledging Charter's *Merger Order* compliance record, as they should, some Opponents incompletely describe irrelevant disputes to try to create a contrary false narrative. For example, the State of Massachusetts, OTI, and Newsmax all describe a dispute with the New York State Attorney General that included claims of creating congestion to obtain interconnection fees from Netflix.⁷⁹ But as Charter has explained, these allegations are irrelevant because they involve supposed conduct by Time Warner Cable that pre-dates Charter's merger with that company.⁸⁰

Other claims fare no better. For example, Public Knowledge and Stop The Cap are wrong to invoke Charter's dispute with New York State over buildout requirements imposed by that state. Charter is not permitted by the settlement agreement to say more than that it has settled its dispute with New York State, but the settlement expressly states that it pertains only to Charter's expansion of its network in Upstate New York and that "[t]his Agreement is not, and should in no way be

⁷⁷ See, e.g., Independent Compliance Officer's Eighth Report on Charter's Compliance with the Residential Build-Out and Data Caps and Usage-Based Pricing Conditions at 1, WC Docket No. 16-197 (July 17, 2020) ("*ICO Data Caps Report*"); Independent Compliance Officer's Sixth Report on Charter's Compliance with the Discounted Broadband Services Offer Condition at 1, WC Docket No. 16-197 (Mar. 31, 2020); Independent Compliance Officer's Report on Charter's Annual Interconnection Report at 1, WC Docket No. 16-197 (Oct. 15, 2019) ("*ICO Interconnection Report*").

⁷⁸ See *ICO Data Caps Report* at 1; *ICO Interconnection Report* at 1.

⁷⁹ Massachusetts Comments at 3 n.11; Newsmax Comments at 10-11; OTI Comments at 3.

⁸⁰ See Chaim Gartenberg, *Charter-Spectrum reaches \$174.2 million settlement in New York AG's speed fraud lawsuit*, Verge (Dec. 18, 2018), <https://www.theverge.com/2018/12/18/18146210/charter-spectrum-174-million-settlement-new-york-state-attorney-general-internet-speeds> (stating that Charter "[is] pleased to have reached a settlement with the Attorney General on the issue of certain Time Warner Cable advertising practices in New York prior to our merger, and to have put this litigation behind us. Charter has made, and continues to make, substantial investments enhancing internet service across the state of New York since our 2016 merger, as acknowledged by the Attorney General in this settlement." (quoting Charter)).

construed or represented as, a Commission finding or an admission by Charter of a violation.”⁸¹ Even more to the point, these requirements are completely separate from the *Merger Order* buildout requirements.⁸² With regard to the latter, the ICO has confirmed that Charter has met every single one of its buildout requirements.⁸³ In fact, Charter is pleased to announce in this pleading that it has recently met its final buildout requirement of 2 million passings—almost 12 months ahead of schedule.

B. Independent Programmers Are Not Affected and Their Concerns Fall Outside the Scope of this Proceeding.

A handful of claims about independent programming are similarly misplaced. Public Knowledge and Sports Fans Coalition assert, for example, that allowing the Conditions to sunset would hurt independent programmers, and ESN claims that it is being targeted in particular.⁸⁴ But there is no evidence that the data caps or usage-based pricing now prevailing in the marketplace harms independent programmers. And the Interconnection Condition does not even apply to independent programmers, since only entities that maintain a minimum aggregate traffic exchange of 30 Gbps and can reach a certain number of points of presence across the country qualify.⁸⁵ Moreover, the Commission already concluded in the *Merger Order* that the merger would not

⁸¹ See, e.g., *Proceeding to Investigate Whether Charter Communications, Inc. and its Subsidiaries Providing Service Under the Trade Name “Spectrum” Have Materially Breached Their New York City Franchises*, Order Adopting 2019 Settlement Agreement and Reconsidering Related Actions, Case No. 18-M-0178, App’x A at 5-6 (N.Y. Pub. Serv. Comm’n July 11, 2019).

⁸² Similarly, in addition to being unrelated, discovery disagreements such as the one the Writer’s Guild of America, West cites are a perfectly normal part of a company’s general operations and hardly constitute “bad faith,” as the Writer’s Guild wrongly claims. WGAW Comments at 10-11.

⁸³ See *supra* note 77.

⁸⁴ PKSFC Opposition at 12-13; Entertainment Studios Networks, Inc. Petition to Deny at 4-5, WC Docket No. 16-197 (July 22, 2020) (“ESN Petition to Deny”).

⁸⁵ *Merger Order*, 31 FCC Rcd at 6559, App’x B, Attachment 1.

increase Charter's incentive or ability to discriminate against independent programmers or impose unlawful terms and conditions on carriage.⁸⁶

These claims have no place in this proceeding. To the extent that these entities have carriage concerns, they can of course pursue those under the Commission's carriage rules.⁸⁷ And though Charter denies ESN's allegations, the place to resolve those issues is in ESN's pending case in federal court.⁸⁸ The Commission therefore should dismiss these claims.

C. Charter Has Provided Substantial Assistance to Subscribers During the COVID-19 Pandemic, Which Provides No Justification for Continuing the Conditions.

The unfortunate COVID-19 pandemic also does not support maintaining the unjustifiable Conditions any longer, as some Opponents suggest.⁸⁹ Charter explained in its Petition⁹⁰ how the Company has gone above and beyond to help its customers stay connected during the pandemic. Charter is proud to have taken the Keep Americans Connected Pledge, in which it committed to maintain service for those having trouble paying their bills, waive late fees occasioned by economic hardship, and open Wi-Fi hotspots to any American who needed them.⁹¹ The Commission has even recognized Charter as one of the companies that has exceeded expectations

⁸⁶ *Merger Order*, 31 FCC Rcd at 6462 ¶ 273.

⁸⁷ *See* 47 C.F.R. § 76.1302.

⁸⁸ *Nat'l Ass'n of African American-Owned Media v. Charter Communications, Inc.*, Civ. No. 2:16-cv-00609-GW-FFM (C.D. Cal. filed Jan. 27, 2016). Data caps/UBP and paid interconnection are legal market mechanisms that have no connection at all to the alleged unlawful discrimination on the basis of race. *See, e.g., Restoring Internet Freedom Order*, 33 FCC Rcd at 416, 453-55 ¶¶ 173, 249-250.

⁸⁹ *See* PKSFC Opposition at 13-15; Massachusetts Comments at 1-3.

⁹⁰ Petition at 8.

⁹¹ *Keep Americans Connected*, FCC, <https://www.fcc.gov/keep-americans-connected> (last visited July 29, 2020).

during these challenging times.⁹² Among other things, Charter has offered free broadband service to new businesses, students, teachers, and their families—representing nearly 450,000 subscribers—for 60 days, forgiven \$85 million worth of overdue balances, and kept around 700,000 subscribers connected who were struggling economically from the effects of the pandemic.⁹³ Charter also has given its front line workers a raise during the pandemic, and is in the process of permanently raising its minimum wage from \$15 to \$20.⁹⁴

These concerns, therefore, should be dismissed. Charter has demonstrated its commitment to its subscribers by ensuring that they can fully rely on their broadband connections for work, education, and entertainment during these difficult times, and the Commission has no reason to doubt that this will change in sunseting the DC/UBP and Interconnection Conditions.

IV. THE COMMISSION’S PROCESS IS PROCEDURALLY PROPER.

The Commission now has all of the evidence it needs to conclude that the DC/UBP and Interconnection Conditions are no longer necessary in today’s marketplace,⁹⁵ and there is no reason why the Commission must delay its ruling. Opponents’ arguments to the contrary are delay tactics lacking in substantiation.

Under Section XII of the *Merger Order*, Charter may petition to shorten the duration of the DC/UBP and Interconnection Conditions to five years “during the three (3) months after the fourth

⁹² *Companies Have Gone Above and Beyond the Call to Keep Americans Connected During Pandemic*, FCC, <https://www.fcc.gov/companies-have-gone-above-and-beyond-call-keep-americans-connected-during-pandemic> (last visited July 29, 2020).

⁹³ Petition at 8; *see also* Charter Q2 2020 Earnings Transcript.

⁹⁴ Petition at 5-6.

⁹⁵ *See supra* Sections I & II.

anniversary of the Closing Date.”⁹⁶ Because the merger closed on May 18, 2016,⁹⁷ Section XII requires Charter to file within three months of May 18, 2020⁹⁸—a requirement Charter satisfied by filing its Petition on June 17, 2020.⁹⁹

To begin with, allegations that giving interested parties ample notice is a procedural error do not stand up to scrutiny. Once Charter files its petition to sunset the Conditions, Section XII states that “the Wireline Competition Bureau shall, nine (9) months prior to the fifth anniversary of the Closing Date, seek public comment” on the petition.¹⁰⁰ In other words, the Commission must issue its Public Notice *no later than* August 18, 2020. Contrary to the claims of ESN, Newsmax, and OTI,¹⁰¹ this language does not require the filing of a public notice on an *exact* date but, instead, provides the Commission and interested parties *at least* nine months to consider the merits of Charter’s Petition.

A contrary requirement to issue a public notice on a specific day would be highly unusual, and Opponents offer no reason why the Commission would have adopted such a requirement.¹⁰² It would also impose an unreasonable administrative burden by requiring the issuance of a public notice on *one* specific day—not a day earlier, not a day later—not to mention the impossibility of

⁹⁶ *Merger Order*, 31 FCC Rcd at 6558, App’x B, Section XII.

⁹⁷ *See Petition by Charter Communications, Inc. To Sunset Merger Conditions Pleading Cycle Established*, Public Notice, WC Docket No. 16-197, DA 20-652 (June 22, 2020) (“*Public Notice*”).

⁹⁸ *Merger Order*, 31 FCC Rcd at 6558, App’x B, Section XII.

⁹⁹ *See* Petition.

¹⁰⁰ *See Merger Order*, 31 FCC Rcd at 6558, App’x B, Section XII.

¹⁰¹ *See* ESN Petition to Deny at 11-12; Newsmax Comments at 3-4; OTI Comments at 6.

¹⁰² *See, e.g.*, Newsmax Comments at 3-4. For example, ESN asserts that it would have been able to introduce material facts in opposition to the Petition if the Commission had only issued its public notice *precisely* on August 18, though ESN never explains what that evidence might be. ESN Petition to Deny at 12. Newsmax likewise complains that it has been deprived of time to develop evidence in opposition to the Petition. Newsmax Comments at 3-4.

this requirement had Charter waited until August 15 to have filed. Moreover, despite Opponents' claims,¹⁰³ the Commission has discretion to interpret this requirement as necessary to serve the public interest.¹⁰⁴

Finally, because the Petition is now ripe for resolution, the Commission should reject delay tactics such as those proposed by Opponents. INCOMPAS is wrong to insist that the Commission must wait to rule on Charter's Petition until it can conduct a separate economic analysis like the one performed in Appendix C of the *Merger Order*.¹⁰⁵ Nothing in the *Merger Order* suggests such an infeasible requirement. Charter and its many supporters have provided copious evidence, including the declaration of Dr. Jeffrey Eisenach, that OVDs are thriving and Charter and other broadband providers lack the incentive to discriminate against OVDs. The Commission has also examined the issues underlying data caps and interconnection pricing at length since the *Merger Order* was adopted in its *Restoring Internet Freedom Order*, concluding correctly that the market

¹⁰³ See *supra* note 101.

¹⁰⁴ In the wake of the GCI-ACS transaction, the Wireless Telecommunications Bureau granted a petition to lift a condition after only two years even though the merger approval order specified a five-year time period. See Letter from Roger C. Sherman, Chief, Wireless Telecommunications Bureau, FCC, to Chris Nierman, Senior Counsel, Federal Affairs, General Communication, Inc., WT Docket No. 12-187 (Apr. 23, 2015); see also *In re Applications of GCI Communication Corp., ACS Wireless Licensee Sub, Inc., ACS of Anchorage License Sub, Inc., and Unicom, Inc. for Consent to Assign Licenses to the Alaska Wireless Network, LLC*, Memorandum Opinion and Order and Declaratory Ruling, 28 FCC Rcd 10,433, 10,465 ¶ 76 n.238 (2013). Here, of course, Charter has not asked for any condition to sunset—or even petitioned—before the time period specified in the *Merger Order*.

¹⁰⁵ See INCOMPAS Petition to Deny at 4-6. Contrary to INCOMPAS, the Commission also does not need to consider the churn rate to determine whether Charter has economic and competitive reasons to refrain from harming OVDs. *Id.* at 7. Whether consumers have meaningful alternatives to Charter's broadband services is one thing; whether consumers choose to take advantage of those alternatives in response to particular pricing or policies is another. As the Commission explained in the *Restoring Internet Freedom Order*, competition can co-exist with low churn rates, which can often just indicate that providers are taking measures to draw in new subscribers and retain existing subscribers. *Restoring Internet Freedom Order*, 33 FCC Rcd at 384-86 ¶ 128. Furthermore, as discussed above, there is no evidence that *any* broadband providers are using usage and interconnection policies in a way that harms OVDs. As such, there is no point in assessing the rate at which consumers switch providers in response to these non-existent policies.

should determine policies regarding any data caps/UBP or interconnection.¹⁰⁶ The Commission should therefore move expeditiously to grant Charter's Petition to sunset the DC/UBP and Interconnection Conditions on May 18, 2021.

CONCLUSION

For the foregoing reasons, the Commission should grant Charter's Petition to modify the terms of the DC/UBP and Interconnection Conditions so that they sunset May 18, 2021. Charter has no plans to impose data caps or interconnection fees. But because of the limited time window for filing the Petition, Charter must seek the flexibility now that sunseting the Conditions will provide, especially in today's rapidly changing marketplace. The now-complete record clearly demonstrates that the OVD marketplace has flourished in the more than four years following the merger and that the conditions are no longer necessary. It also shows that Charter, like its competitors, is seeking opportunities to increase its subscribers' access to online video services, not diminish them. Ending the Conditions will also allow Charter to construct and operate its network according to sound engineering principles rather than regulatory fiat. The Commission therefore should expeditiously grant Charter's Petition.

¹⁰⁶ See *Restoring Internet Freedom Order*, 33 FCC Rcd at 363, 375 ¶¶ 87, 110.

Respectfully submitted,

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Exhibit A

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of

Conditions Imposed in the Charter
Communications-Time Warner Cable-
Bright House Networks Order

WC Docket No. 16-197

**DECLARATION
OF
JEFFREY A. EISENACH, PH.D.**

August 6, 2020

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APPENDIX A: CURRICULUM VITAE

APPENDIX B: INTEGRATION OF OVD SERVICES BY MVPDS

I. INTRODUCTION AND SUMMARY OF OPINIONS

1. My name is Jeffrey A. Eisenach. I am a Managing Director at NERA Economic Consulting and the Co-Chair of NERA's Communications, Media and Internet Practice. My office address is 1255 23rd Street NW Suite 600, Washington, DC 20037. I am also an Adjunct Professor at the Antonin Scalia Law School at George Mason University, where I teach Regulated Industries, and a Visiting Scholar at the American Enterprise Institute, where I focus on policies affecting the information technology sector. Previously, I served in senior policy positions at the U.S. Federal Trade Commission (FTC) and the White House Office of Management and Budget and taught at Harvard University's Kennedy School of Government and Virginia Polytechnic Institute and State University.

2. I am the author or co-author of several books and monographs, including *Broadband Competition in the Internet Ecosystem*, *The Digital Economy Fact Book* and *The Telecom Revolution: An American Opportunity*, and I have edited or co-edited five books, including *Communications Deregulation and FCC Reform: What Comes Next?* and *Competition, Innovation and the Microsoft Monopoly: Antitrust in the Digital Marketplace*. My articles have appeared in peer-reviewed journals such as *Communications and Strategies*, *Review of Network Economics and Telecommunications Policy*, as well as in such popular outlets as *Forbes*, *Investor's Business Daily*, and *The Wall Street Journal*.

3. Before joining NERA, I was a managing director and principal at Navigant Economics. Before that, I served as Chairman of Empiris LLC, Criterion Economics LLC and CapAnalysis, LLC. Among my other previous affiliations, I served as President and Senior Fellow at The Progress & Freedom Foundation and a scholar at the Heritage Foundation and the Hudson Institute.

I received my Ph.D. in economics from the University of Virginia and my Bachelor of Arts in economics from Claremont McKenna College.

4. My practice focuses on the economic analysis of competition, intellectual property, regulatory and consumer protection issues. I have submitted expert reports and testified in litigation matters, as well as in regulatory proceedings before the U.S. Federal Communications Commission, the U.S. Federal Trade Commission, the U.S. International Trade Commission, several state public utility commissions and courts and regulatory bodies in Australia, Canada, the Caribbean, the European Union and South America. My curriculum vitae appears as Appendix A.

5. In May 2016, the Federal Communications Commission (“FCC” or “Commission”) gave its approval to Charter Communications, Inc.’s, Time Warner Cable Inc.’s (“TWC”) and Bright House Networks, LLC’s (“Bright House”) application to merge their broadband, video and voice services (“the Transaction”) into a single entity (collectively, “Charter”).¹ The Commission conditioned its approval on (among other requirements) Charter’s consent to: (1) “refrain from imposing data caps or charging usage-based pricing for its residential broadband service”² (the “DC/UBP Condition”); and, (2) offer “settlement-free interconnection” – that is, to allow qualifying entities to interconnect to its broadband network for free – (the “Interconnection

¹ Federal Communications Commission, *In the Matter of Applications of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership, For Consent to Assign or Transfer Control of License and Authorizations, Memorandum Opinion and Order*, MB Docket No. 15-49, (May 10, 2016) (hereafter *Charter Time Warner Order (2016)*) at ¶1.

² *Id.* at ¶7 (“First, for seven years, we prohibit New Charter from imposing data caps or usage-based pricing for its residential broadband service. This condition ensures that New Charter will continue Charter’s past pricing practices and protects subscribers from paying fees designed to make online video consumption more expensive leading subscribers to stick with a traditional pay-TV bundle.”).

Condition”),³ for a period of seven years.⁴ As I explain at greater length below, the Commission imposed these conditions based primarily on concerns that the Transaction would give Charter the incentive and ability to discriminate against online video distributors (“OVDs”).

6. The FCC’s *Memorandum and Order* explicitly acknowledged that the Commission’s “ability to predict New Charter’s future market power diminishes the further into the future we look,”⁵ and that, as a result, changes in the online video marketplace and the broadband provision marketplace since 2016 might render the DC/UBP Condition and Interconnection Condition (together, “the Conditions”) unnecessary prior to their scheduled expiration after seven years (in 2023). In fact, the FCC’s *Memorandum and Order* states that Charter can petition to have the Conditions lifted after a period of five years (in 2021).⁶ On June 17, 2020, Charter filed a petition to “sunset” the Conditions effective in 2021 (the “Sunset Petition”).⁷

7. I have been asked by Charter and its counsel to provide my expert opinion on economic issues relevant to the Commission’s assessment of the Sunset Petition, including developments in the marketplaces for OVD and broadband services, the implications of these developments for Charter’s incentives and ability to discriminate against OVDs, and whether and to what extent the

³ *Id.* at ¶9 (“Second, to prevent New Charter from raising prices on companies that deliver Internet traffic – including online video traffic – traffic requested by its broadband subscribers, we condition the transaction on a modified version of the Applicants’ settlement-free interconnection commitment. The Applicants committed to interconnect with qualifying companies for free.”).

⁴ *Id.* at Appendix B, §XII.

⁵ *Id.* at ¶86 (“We agree with the commenters that express concerns with the length of the commitment. We recognize, however, that our ability to predict New Charter’s future market power based on the current record diminishes the farther into the future we look.”).

⁶ *Id.* at Appendix B, §XII.

⁷ Charter Communications, Inc., *In the Matter of Conditions Imposed in the Charter Communications-Time Warner Cable-Bright House Networks Order, Petition of Charter Communications, Inc.*, WC Docket No. 16-197, (June 17, 2020) (hereafter *Charter Sunset Petition*) at 9 (If the FCC were to grant Charter’s sunset petition, the Conditions would be lifted on May 18, 2021).

Conditions might harm economic welfare by impeding Charter's ability to adopt economically efficient business practices.⁸

8. To summarize, I conclude that:

- The concerns that motivated the Commission to impose the Conditions have not been borne out by events. In fact, the OVD marketplace has grown dramatically since the Transaction was approved. As a result, multichannel video programming distributors ("MVPDs") like Charter regard OVDs as complements and have no incentive to discriminate against them. Moreover, the continued growth and new entry of OVD providers makes it economically implausible that Charter (or any MVPD) has the ability effectively to discriminate against OVDs.
- The growth of OVDs has taken place in a market environment in which MVPDs other than Charter have not been subject to the Conditions, demonstrating that the Conditions are not necessary to prevent MVPDs from harming the ability of OVDs to compete successfully in the market.
- Penetration of high-speed broadband services has increased and consumer choices among broadband services have expanded due to increasing competition between mobile and fixed broadband and the entry of wireless providers (notably T-Mobile and Verizon) into the provision of fixed broadband services. These developments provide further evidence of Charter's inability effectively to discriminate against OVDs.
- The Conditions impair Charter's ability to engage in welfare-enhancing business practices, including adopting pricing structures that align customer incentives with cost-causation and facilitate efficient network management, and thus encourage the efficient use of scarce resources. They also place Charter at a competitive disadvantage relative to its competitors, thereby harming competition.
- Based on these findings, it is my opinion that the Conditions are not necessary (if they ever were) to prevent Charter from engaging in conduct that would harm competition and consumers. To the contrary, their only effect is to preclude Charter from even considering the adoption of business practices which would increase economic welfare and benefit consumers and competition.

9. The remainder of this declaration is organized as follows: in Section II, I briefly review pertinent details of the Transaction and discuss the concerns which led the Commission to impose

⁸ The opinions expressed herein are my own and do not necessarily reflect the views of NERA Economic Consulting or its affiliates, of any other organizations with which I am affiliated, or of Charter Communications, Inc.

the Conditions. In Section III, I show that OVDs have grown rapidly and are expected to continue to do so; explain the basis for my finding that MVPDs in general, and Charter in particular, view OVDs as complements for their broadband services; and, explain further why the rapid growth of OVDs makes it even less likely than in 2016 that Charter could effectively discriminate against them. In Section IV, I show that the competition between providers of broadband services is growing rapidly and that MVPDs (like Charter) face increasing competition from mobile broadband and from the rollout of fixed 5G services by T-Mobile and Verizon; and I explain why these facts provide further support for my finding that Charter could not effectively discriminate against OVDs. In Section V, I discuss the ways in which the Conditions inhibit efficiency-enhancing business practices and thereby harm consumers and competition, and why, therefore, consumer welfare would be enhanced by their repeal. Section VI provides a brief conclusion.

II. THE 2016 ORDER AND THE CONDITIONS

10. In this section, I review relevant aspects of the Transaction, the Commission’s concerns regarding Charter’s post-merger “incentive and ability” to discriminate against OVDs, and the Commission’s explanation of why the Conditions were necessary to ameliorate those concerns. I also address Charter’s objections to the Conditions during the merger application process.

A. The Transaction

11. The Transaction combined the broadband, video and voice services of Charter Communications Inc., TWC and Bright House. Prior to the merger’s approval, Charter Communications Inc., was the nation’s sixth-largest MVPD, providing over 5.8 million residential customers and 386,000 commercial customers with Internet, video, voice and business services, in addition to providing broadband Internet services to 4.8 million residential customers, and voice

service to 2.4 million residential customers.⁹ TWC was the nation's fourth-largest MVPD, providing broadband Internet, video and voice services to more than 15 million customers in 30 states, in addition to serving some 11.7 million residential customers with high-speed broadband Internet access.¹⁰ Bright House, the nation's ninth-largest MPVD in 2016, provided video, high-speed data, home security, and voice services to some 2.5 million residential and commercial customers throughout Florida, Alabama, Indiana, Michigan, California and Georgia.¹¹ Subsequent to the merger, the combined Charter "would own and/or manage systems serving approximately 23.9 million customers – 19.4 million broadband customers, 17.3 million video customers, and 9.4 million voice customers – across 41 states."¹²

B. The Commission's Concerns

12. Based on its review, the Commission concluded that the Transaction "would materially alter [Charter's] incentives and abilities in ways that are potentially harmful to the public interest."¹³ The FCC was concerned, in particular, that Charter would seek to "limit" competition from OVDs,¹⁴ which "increasingly compete with MVPDs for 'viewing time, subscription revenue, and advertising revenue.'"¹⁵ The Commission concluded that post-merger, Charter would have the incentive and ability to "hamper or prevent its current and future online video rivals from

⁹ *Charter Time Warner Order (2016)* at ¶13. Figures cited in this paragraph are for 2014 based on Charter's June 2015 Application for Consent. See *Application of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to the Transfer of Control of Licenses and Authorizations*, MB Docket No. 15-149 (filed June 25, 2015).

¹⁰ *Id.* at ¶14.

¹¹ *Id.* at ¶17.

¹² *Id.* at ¶23.

¹³ *Id.* at ¶7.

¹⁴ *Id.* at ¶34, n.83 ("For purposes of this Order, an OVD is an entity that distributes video programming (1) by means of the Internet or other Internet Protocol (IP)-based transmission path; (2) not as a component of an MVPD subscription or other managed video service; and (3) not solely to customers of a broadband Internet access service owned or operated by the entity or its affiliates.").

¹⁵ *Id.* at ¶34.

expanding, becoming more competitive, or starting-up in the first place.”¹⁶ As a result, it found, “Charter will have a general incentive to discriminate against OVDs because they compete with New Charter’s affiliated video services.”¹⁷ Simply put, the Commission worried that Charter would be incentivized to inhibit the entry and expansion of OVDs in order to prevent subscribers from substituting away from its own video programming services to OVDs.¹⁸

13. In addition, the Commission concluded that “New Charter’s larger number of broadband subscribers” will increase its “ability to raise prices on companies – including online video distributors – that interconnect with New Charter’s network to deliver Internet traffic that consumers want.”¹⁹ In the Commission’s view, a lack of competition in the provision of broadband services would give Charter the ability to raise OVDs’ costs (and/or degrade their service quality), either indirectly, by raising the relative price of OVD services through the use of data caps/usage-based pricing,²⁰ or directly, by charging OVDs and other edge providers to interconnect to its broadband network.²¹ The Commission also worried that Charter’s incentives to attract retail broadband customers were not sufficient to deter it from these actions, due in part to what it viewed as “limited choice” among broadband internet access service (“BIAS”) providers.²²

¹⁶ *Id.* at ¶5.

¹⁷ *Id.* at ¶122.

¹⁸ *Id.* at ¶7 (The FCC stated that Charter’s “increased broadband footprint and desire to protect its video profits will increase its incentives to impose data caps or usage-based prices” in order to “make watching online video more expensive, and in particular more expensive than subscribing to a traditional pay-TV bundle.”).

¹⁹ *Id.* at ¶7.

²⁰ *Id.* at ¶83 (The Commission stated that, “the proposed transaction may make New Charter more likely to impose data caps or UBP to inhibit OVD competition and that New Charter’s use of those caps would be more damaging to OVDs than any of the Applicants acting individually.”).

²¹ *Id.* at ¶48 (The FCC noted that Charter “could use its increased size to harm consumers’ choices in the market for video services” through a different mechanism – “by unilaterally discriminating against potential video competitors (such as OVDs) through the use of anticompetitive retail terms for residential BIAS, upon which OVDs rely to reach current and potential customers.”).

²² *Id.* at ¶38 (citing Federal Communications Commission, *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd at 5631, ¶81, n. 134).

14. Charter put forward a number of responses to the Commission’s concerns, including arguing that discriminating against OVDs was inconsistent with its going forward business strategy, which was to focus on selling broadband services: “[T]he new firm’s focus on broadband implies that it would not harm OVDs but would instead use its broadband business to promote OVDs and other edge providers.”²³ The Commission majority ultimately found Charter’s arguments unpersuasive. To counteract Charter’s purported incentive and ability to discriminate against OVDs, the Commission imposed the DC/UBP Condition and Interconnection Condition.

15. The DC/UBP Condition provides that Charter “shall not offer any fixed mass market BIAS plans that subject mass market BIAS customers to data caps or any other usage-based pricing mechanisms.”²⁴ Because the video content streamed by OVDs and other edge providers (including high-definition episodes and movies) often consumes large amounts of bandwidth,²⁵ the FCC concluded that the DC/UBP Condition was necessary to prevent Charter from charging more to

²³ *Charter Time Warner Order (2016)* at ¶40. These arguments were very similar to the Commission’s subsequent findings in its 2018 *Restoring Internet Freedom Order*, which concluded that “ISPs have strong incentives to preserve Internet openness, and these interests typically outweigh any countervailing incentives an ISP might have.... The content and applications produced by edge providers often complement the broadband Internet access service sold by ISPs, and ISPs themselves recognize that their businesses depend on their customers’ demand for edge content.” Federal Communications Commission, *In the Matter of Restoring Internet Freedom, Declaratory Ruling, Report and Order, and Order*, WC Docket No. 17-108, (January 4, 2018) (hereafter *Restoring Internet Freedom (2018)*) at ¶117.

²⁴ The *Charter Time Warner Order (2016)* identified several forms of data-caps/usage-based pricing which Charter was prohibited from adopting, including: “charging fixed mass market BIAS customers different prices based on the amount of data consumed;” “preventing fixed mass market BIAS customers from consuming data beyond a certain threshold;” “imposing additional fees on fixed mass market BIAS customers who consume data beyond a certain threshold;” “requiring fixed mass market BIAS customers who have consumed data beyond a certain threshold to upgrade to a higher priced service product;” or “impairing or otherwise degrading the speed or quality of a customer’s fixed mass market BIAS connection once the customer surpasses a certain data consumption threshold or consumes a certain amount of data.” *Charter Time Warner Order (2016)* at Appendix B, §IV.

²⁵ Ben Munson, “Broadband Usage Patterns Can Predict Cord Cutting – Report,” *FierceVideo* August 16, 2019) (available at <https://www.fiercevideo.com/video/broadband-usages-patterns-can-predict-cord-cutting-report>) (“As 4K content becomes more readily available on services including Netflix and Amazon Prime Video, broadband subscribers who stream the higher resolution content can expect to push past their data caps and become power users.”).

subscribers who consume more bandwidth (thereby increasing the relative price of OVD services).²⁶

16. The Interconnection Condition was put in place to address the Commission’s concerns that Charter could impair OVDs by directly raising their costs.²⁷ Specifically, it was concerned that an OVD being charged to interconnect with Charter’s network would be forced to either (1) absorb the increased costs of interconnection, or (2) pass these costs on to customers in the form of higher subscription prices. According to the Commission, Charter’s purpose in imposing interconnection fees would be to “reduce the ability of OVDs to serve their customers, and potentially driving (*sic*) those customers to switch to New Charter’s affiliated video services.”²⁸ Accordingly, the Interconnection Condition conditioned approval “on a modified version of the Applicants’ settlement-free interconnection commitment. The Applicants committed to interconnect with qualifying companies for free.”²⁹

17. Comments filed by third parties in opposition to the Sunset Petition echo many of the concerns expressed by the Commission in 2016. For example, in their opposition motion, Public Knowledge and the Sports Fans Coalition argue that “Charter’s business structure and the competitive pressures it faces in the video marketplace ensure that it will, at a minimum, have the incentive to favor its own content over those of rivals.”³⁰ Public Knowledge and the Sports Fans Coalition also argue that Charter has the ability to discriminate against OVDs, as it is the only

²⁶ *Charter Time Warner Order (2016)* at ¶122 (“Moreover, OVDs are more vulnerable to interconnection-related harms than most other edge providers because of their intensive networking demands.”).

²⁷ For a general discussion of business strategies pertaining to increasing competitors’ costs, see Steven C. Salop & David T. Scheffman, “Raising Rivals’ Costs,” *The American Economic Review* 73(2) (1983) at 267-271.

²⁸ *Charter Time Warner Order (2016)* at ¶122.

²⁹ *Id.* at ¶10, Appendix B, §XII.

³⁰ Public Knowledge and Sports Fans Coalition, *In the Matter of Conditions Imposed in the Charter Communications-Time Warner Cable-Bright House Networks Order, Opposition to Petition by Charter Communications of Public Knowledge and Sports Fans Coalition*, WC Docket No. 16-197 (July 22, 2020) at 2.

broadband provider that offers reasonable speeds (or one of two such providers), in most markets that it serves.³¹ Similarly, in its opposition motion, INCOMPAS asserts that the Sunset Petition should be denied because Charter’s customers lack access to alternative broadband providers.³²

18. As I explain below, the Commission’s concerns about the impact of the Transaction on OVDs have not been borne out by events. To the contrary, OVDs have grown dramatically while MVPDs have lost millions of video subscribers. Further, as Charter predicted, MVPDs in general, and Charter in particular, increasingly have focused on selling broadband services and on promoting, not discouraging, consumer uptake of OVDs.

III. THE VIDEO PROGRAMMING MARKETPLACE IS HIGHLY DYNAMIC

19. In this section, I discuss the development of the video programming marketplace in the four years since the Transaction was approved. The evidence demonstrates that the OVD sector is experiencing rapid growth and new entry, while subscribership to the MVPDs’ own video services has declined. Further, the growth and proliferation of OVDs has occurred despite the fact that other MPVDs have been free to employ (and indeed have employed) the business practices which are denied to Charter under the Conditions.³³ Moreover, as Charter predicted, the business relationships between OVDs and MVPDs are increasingly complementary, with MVPDs actively

³¹ *Id.* at 3.

³² INCOMPAS, *In the Matter of Conditions Imposed in the Charter Communications-Time Warner Cable-Bright House Networks Order, Petition to Deny of INCOMPAS*, WC-Docket No. 16-197 (July 22, 2020) at 7-8 (“[Charter’s June 17, 2020] petition does not offer any evidence to demonstrate that, in the face of harmful behavior by Charter, consumers have sufficient BIAS alternatives, especially high-speed BIAS options that are actual substitutes for Charter’s service rather than complements, such as mobile service[s], which often offers slower speeds, has data caps and usage-based pricing, and is not sufficient for significant online video consumption due to costs.”).

³³ *Charter Time Warner Order (2016)* at ¶83 (“Comcast continues to expand its data caps and UBP across its footprint.”). Other major broadband providers utilize reasonable data caps. CenturyLink, “Internet Service Disclosure” (available at <https://www.centurylink.com/aboutus/legal/internet-service-disclosure/full-version.html>); Mediacom, “Mediacom Internet Service Plan Offerings” (available at <https://mediacomcable.com/legal/additional-terms-and-conditions/>); Xfinity, “What Is the 1.2 Terabyte Internet Data Usage Plan?” (available at <https://www.xfinity.com/support/articles/data-usage-what-is-the-terabyte-data-usage-plan>).

marketing OVD services to their subscribers. Taken together, these developments demonstrate that the Commission’s original concerns about Charter’s incentives and ability to discriminate against OVDs are not justified in today’s marketplace.

A. The OVD Marketplace Has Experienced Rapid Growth

20. The evidence demonstrates that the OVD marketplace is experiencing rapid and successful entry from a variety of new providers, that the breadth and quality of OVD video content is increasing, that consumers are increasingly shifting to online viewing of video and away from traditional TV, and that OVD subscribership is growing at more than 10 percent annually while traditional video subscribership is declining. From an economic perspective, all of this evidence supports my finding that Charter has neither the ability nor the incentive to discriminate against OVDs. To the contrary, Charter is increasingly reliant on OVDs to drive adoption of its broadband services, which in turn drives adoption of its other offerings.

1. The OVD Marketplace is Experiencing Rapid Entry

21. Since the advent of Netflix (2007) and Hulu (2008), the OVD marketplace has experienced rapid entry, and there are now at least 140 OVDs offering streaming video programming to U.S.-based customers.³⁴ In the past year, entry has accelerated further with the launch of major new services by Apple (Apple TV), AT&T (HBO Max), Comcast (Peacock) and the Walt Disney Company (Disney+).³⁵ As shown in Table 1, below, at least 41 major new OVD services have entered the marketplace since the Transaction was approved. The new entrants include services from major internet companies like Amazon, Apple and Google and from large media companies

³⁴ Motion Picture Association, *2019 THEME Report*, (available at <https://www.motionpictures.org/wp-content/uploads/2020/03/MPA-THEME-2019.pdf>) at 39.

³⁵ Dade Hayes, “Disney Injects Hulu and Even Disney+ Into Its Upfront Message to Advertisers,” *Deadline* (June 5, 2020) (available at <https://deadline.com/2020/06/disney-injects-streaming-hulu-disney-plus-into-upfrontmessage-to-advertisers-1202951075/>); See Table 1, *infra*.

like AT&T, Comcast/NBC, Viacom and The Walt Disney Company, in addition to independent platforms like BET+, Quibi and Roku.³⁶

**TABLE 1:
MAJOR OVD ENTRANTS, 2016-2020**

2016	2017	2018	2019	2020
Amazon Instant Video	BritBox	Adult Swim	Apple TV+	HBO Max
Animal Planet GO	Fox NOW	Cooking Channel GO	AT&T TV Now	NBCU Peacock
Bravo	Philo	Food Network GO	BET Plus	Quibi
Discovery GO	Watch TBS	ESPN+	Disney+	Redbox
E!	Watch TNT	HGTV Go	Fandango Now	
ID Go	Xfinity App	Pop Now	Frndly TV	
Science GO	YouTube TV	Smithsonian Plus	PBS Living	
Starz	Hulu + Live TV	Travel Channel GO	Plex	
TLC GO	Roku Channel		Pluto TV (Viacom)	
VRV			Spectrum App	

Source: Charter Sunset Petition.

22. The vibrancy of the OVD marketplace is further underscored by the variety of content offered and business models employed by different OVDs. OVDs compete to differentiate themselves in the eyes of customers on multiple dimensions. Primarily, this differentiation occurs via content: different OVDs provide viewers with access to different libraries of original and syndicated TV shows and films, sports, and various types of specialty content. In addition to differentiation via content, OVDs have also adopted different approaches to subscription fees and advertising. Subscription-based OVDs (“SVODs”) – like Netflix – charge customers monthly subscription fees and offer advertising-free content.³⁷ Ad-supported OVDs (“AVODs”) forego

³⁶ Roku is actually the most streamed OVD in the U.S. by hours spent streaming. Amy He, “Roku Remains Top CTV Platform, Amazon Fire TV Takes Second Spot This Year,” *eMarketer* (May 29, 2020) (available at <https://www.emarketer.com/content/roku-remains-top-ctv-platform-amazon-fire-tv-takes-second-spot-this-year>); Luke Bouma, “Roku Is the Most Popular Streaming Player in the United States According to a New Study,” *Cord Cutter News* (November 5, 2019) (available at <https://www.cordcuttersnews.com/roku-is-the-most-popular-streaming-player-in-the-united-states-according-to-new-study/>).

³⁷ Todd Spangler, “Hulu Says 70% of Its 82 Million Viewers Are on Ad-Supported Plan,” *Variety* (May 29, 2019) (available at <https://variety.com/2019/digital/news/hulu-ad-supported-subscribers-70-percent-1203227954/>).

subscription fees and focus on selling advertising.³⁸ Prominent AVODs include Roku’s Roku Channel,³⁹ Walmart’s Vudu,⁴⁰ and Tubi,⁴¹ among others. Still other, “hybrid” OVDs – such as Hulu – offer customers the choice between different subscription tiers, with lower-priced plans exposing viewers to more frequent or longer advertisements than higher-priced options.⁴² According to Hulu, in mid-2019, about 70 percent of its viewers opted for an ad-supported plan.⁴³

23. New entry into any industry is a signal of positive economic profits – *i.e.*, that investors believe that capital invested will generate above-market economic returns.⁴⁴ The rapid and extensive entry into the OVD marketplace is thus a strong indication that the market believes OVDs are likely to continue thriving in the future.

2. The Breadth and Quality of OVD Programming Has Increased

24. As noted above, the OVD marketplace now affords U.S. consumers the choice of a multitude of different OVDs tailored to their preferences. In addition, competition in the OVD

³⁸ See Seth Shafer, “State of US Online Video: Ad-Supported Video,” S&P Global (November 7, 2019) (available at <https://www.snl.com/web/client?auth=inherit&overridecdc=1&#news/article?id=55218175&KeyProductLinkType=6>) (describing AVODs as platforms that “operate under the traditional free ad-supported video-on-demand” model, “offering movies, TV series and short-form video content available to watch for free as long as users are willing to sit through video ads[.]”).

³⁹ Patience Haggin, “Roku Expects to Sustain Robust Revenue Growth,” *The Wall Street Journal* (February 13, 2020) (available at <https://www.wsj.com/articles/roku-expects-to-sustain-robust-revenue-growth-11581645214>).

⁴⁰ Tim Peterson, “WTF is FAST?” Digiday (August 6, 2019) (available at <https://digiday.com/future-of-tv/wtf-is-fast/>).

⁴¹ *Id.*; Joe Flint, “Fox Corp. to Buy Streaming Service Tubi,” *The Wall Street Journal* (March 17, 2020) (available at <https://www.wsj.com/articles/fox-corp-to-buy-streaming-service-tubi-11584479530>).

⁴² Hulu Help Center, “Ads on Hulu” (May 8, 2020) (available at https://help.hulu.com/s/article/ads-on-hulu?language=en_US) (“We offer a variety of plans to choose from, some of which are ad-supported. Hulu and Hulu + Live TV subscribers will see some ads while streaming shows and movies in the Hulu streaming library, while Hulu (No Ads) and Hulu (No Ads) + Live TV subscribers can watch those same videos without any interruptions.”).

⁴³ Todd Spangler, “Hulu Says 70% of Its 82 Million Viewers Are on Ad-Supported Plan,” *Variety* (May 29, 2019) (available at <https://variety.com/2019/digital/news/hulu-ad-supported-subscribers-70-percent-1203227954/>) (“Hulu sells an ad-free version of its streaming service, just like Netflix. But the majority of Hulu subscribers are on the \$5.99-per-month ad-supported plan, which is half the price of the \$11.99 no-commercials version.”).

⁴⁴ See e.g., W. Kip Viscusi, Joseph E. Harrington, Jr. and David M. Sappington, *Economics of Regulation and Antitrust* 5th ed. (MIT Press, 2018) at 179.

market has also led to increases in the breadth and quality of video programming provided by OVDs.

25. For example, from 2009 to 2019, the number of scripted television series increased from 210 to 532, driven largely by content produced by OVDs.⁴⁵ OVDs have emerged as hotbeds for original scripted series and films, exemplified by original series such as Netflix’s “House of Cards,” “Orange is the New Black” and “The Crown” (and films like “Marriage Story” and “The Irishman”),⁴⁶ Amazon Prime Video’s “Jack Ryan,” “The Marvelous Mrs. Maisel” and “Fleabag,”⁴⁷ and Hulu’s “The Handmaiden’s Tale.”⁴⁸ The quality of original OVD programming is reflected in the most recent Emmy Award nominations – announced on July 28, 2020 – in which Netflix “smashed the record for most nominations of any network, studio or streaming platform, with 160, breaking the record set last year by HBO. HBO came in second, with 107 nominations. The next closest competitor, NBC, had 47.”⁴⁹ Disney+’s original series “The Mandalorian,” garnered 15 Emmy nominations, including a nomination for Best Original Drama, just five months after the service launched.⁵⁰

⁴⁵ John Koblin, “Peak TV Hits a New Peak, With 532 Scripted Shows,” *The New York Times* (January 9, 2020) (available at <https://www.nytimes.com/2020/01/09/business/media/tv-shows-2020.html>).

⁴⁶ Netflix, “What’s on Netflix?” (available at <https://www.whats-on-netflix.com/originals/>).

⁴⁷ Kevin Webb & Mara Leighton, “17 Critically Acclaimed Amazon Prime Video Original Shows to Add to Your Streaming Queue,” *Business Insider* (May 21, 2020) (available at <https://www.businessinsider.com/best-amazon-prime-original-shows>).

⁴⁸ Travis Clark, “Hulu’s 35 Notable Original TV Shows, Ranked From Worst to Best by Critics,” *Business Insider* (April 21, 2020) (available at <https://www.businessinsider.com/best-hulu-original-shows-ranked-2017-5>).

⁴⁹ John Koblin, “Netflix Breaks HBO’s Record for the Most Emmy Nominations Ever,” *The New York Times* (July 28, 2020) (available at <https://www.nytimes.com/2020/07/28/arts/television/emmy-nominations.html?referringSource=articleShare>). Netflix original programming also received 34 Golden Globe nominations and 24 Oscar nominations in 2020, more than any other movie studio. Rick Marshall, “Netflix Dominates 2020 Oscar Nominations, but Surprises and Snubs Persist,” *Digital Trends* (January 13, 2020) (available at <https://www.digitaltrends.com/movies/2020-oscar-nominations-surprises-snubs>); Ellen Gamerman & John Jurgensen, “Netflix Dominates Golden Globe Nominations,” *The Wall Street Journal* (December 10, 2019) (available at <https://www.wsj.com/articles/golden-globe-nominations-pit-streamers-against-studios-11575896199>).

⁵⁰ Carolyn Giardina & Aaron Couch, “‘The Mandalorian’ Lands 15 Emmy Nominations,” *Hollywood Reporter* (July 28, 2020) (available at <https://www.hollywoodreporter.com/behind-screen/mandalorian-lands-15-emmy-nominations-1304596>).

3. Consumers' Viewing Habits Have Shifted Toward Online Viewing

26. The rapid expansion of OVDs has accelerated the general shift in consumers' viewing habits away from traditional platforms and toward online viewing. For example, data compiled by Nielsen show that, between 2015 and 2019, the share of total video viewing by U.S. adults accounted for by online viewing increased from 31 percent to 53 percent, while linear TV viewing (including both live and time-shifted viewing), decreased from 70 percent to 47 percent.⁵¹ Nielsen data also show that daily time spent viewing live and DVR/time-shifted TV among all U.S. adults (18 years or older) decreased between 2015 and 2019 from over five hours per day to four and a half hours per day, while time spent viewing online content (by computer, tablet, smartphone or other Internet connected device) increased from two hours and 18 minutes per day to almost five hours per day.⁵²

27. The rapid growth of OVDs has been fueled by the proliferation of Internet-connected devices capable of displaying online video, including computers, smartphones, tablets, gaming consoles, television sets, and other equipment.⁵³ According to the Leichtman Research Group, 80

⁵¹ Nielsen, *The Nielsen Total Audience Report Q1 2017* (2017) at 13 (hereafter *Nielsen Audience Report 2017*) (available at <http://3xyemy1let2g2jeg0pea76v1.wpengine.netdna-cdn.com/wp-content/uploads/NLSN.pdf>); All Access, "Nielsen's 'Total Audience Report' for Q1 2019 Has Solid News for Radio" (July 1, 2019) (hereafter *All Access Nielsen Audience Report 2019*) (available at <https://www.allaccess.com/net-news/archive/story/187552/nielsen-s-total-audience-report-for-q1-2019-has-so>). The following Nielsen categories are omitted from the calculation of total time spent engaged with video: AM/FM Radio, DVD/Blu-Ray Device and Game Console. Academic research suggests that computers and smartphones are in fact direct substitutes for real-time television viewing. See Shinjae Jang and Minsoo Park, "Do New Media Substitute for Old Media? A Panel Analysis of Daily Media Use," *Journal of Media Economics* 29(2) (2016) 73-91.

⁵² *Nielsen Audience Report 2017* at 13; All Access, "Nielsen's 'Total Audience Report' for Q1 2019 Has Solid News for Radio" (July 1, 2019) (hereafter *All Access Nielsen Audience Report 2019*) (available at <https://www.allaccess.com/net-news/archive/story/187552/nielsen-s-total-audience-report-for-q1-2019-has-so>). The following Nielsen categories are omitted from the calculation of total time spent engaged with video: AM/FM Radio, DVD/Blu-Ray Device and Game Console. See also *In re Restoring Internet Freedom Order, Declaratory Ruling, Report and Order, and Order*, 33 FCC Rcd 311, 414-15 (2018), *vacated by Mozilla Corp. v. FCC*, 940 F.3d 1 (D.C. Cir. 2019), ¶ 171 ("[T]here is ample evidence that major edge providers, including Netflix, YouTube, and other large OVDs, are some of the 'most-loved' brands in the world.").

⁵³ Federal Communications Commission, *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, 18th Report*, MB Docket No. 16-247 (January 17, 2017) at ¶128.

percent of U.S. television households have one or more television sets connected to the Internet and 98 percent have at least one Internet connected device capable of displaying video.⁵⁴

4. OVD Subscribership is Growing Rapidly

28. In this subsection I present data on OVD subscribership. As I explain further below, from an economic perspective, the rapid growth of OVDs means that the profitability of MVPDs like Charter depends increasingly on selling broadband services – for which streaming video is a strong economic complement. Simply put, MPVDs have more to gain from using OVD offerings to sell more broadband than from trying to protect their video subscriber base.

29. As shown in Figure 1, the subscribership of the largest OVDs has grown rapidly. For example, between 2015 and 2019, Netflix, Amazon Prime and Hulu subscribership increased by 41, 96 and 184 percent, respectively. By February 2020, according to Nielsen, 91 percent of U.S. consumers subscribed to at least one paid streaming video service,⁵⁵ while *Forbes* reported that, in 2019, the average American watched 3.4 streaming services.⁵⁶

30. More recent data indicate that the COVID-19 pandemic has accelerated the pace of OVD adoption. In the first two quarters of 2020 alone, Netflix added 5.25 million new subscribers.⁵⁷

⁵⁴ Leichtman Research Group, “80% of U.S. TV Households Have at Least One Connected TV Device” (June 5, 2020) (available at <https://www.leichtmanresearch.com/80-of-u-s-tv-households-have-at-least-one-connected-tv-device/>); Leichtman Research Group, *Research Notes 3Q 2018* (2018) at 1 (available at <https://www.leichtmanresearch.com/wp-content/uploads/2018/10/LRG-Research-Notes-3Q-2018.pdf>) (citing its *Emerging Video Services XII* study).

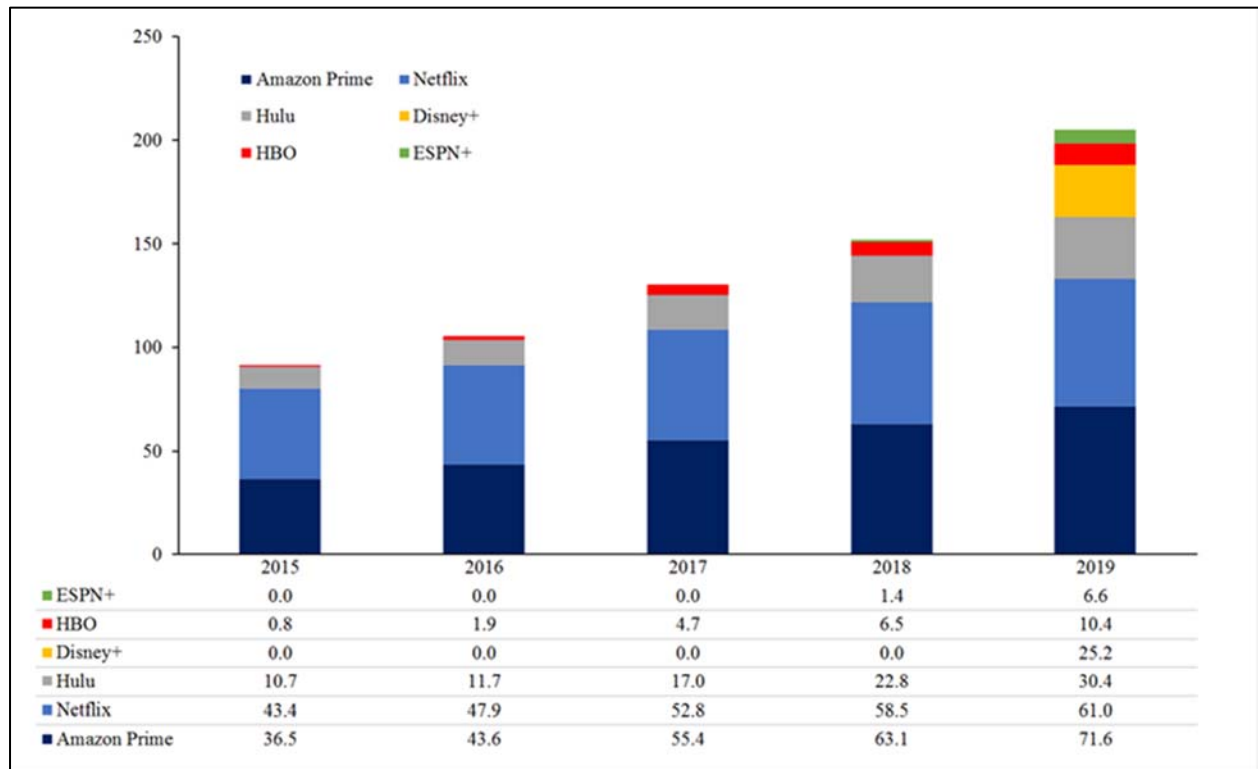
⁵⁵ Anthony Ha, “Streaming Accounts for Nearly One-Fifth of Total US TV Watching, According to Nielsen,” *TechCrunch* (February 11, 2020), (available at <https://techcrunch.com/2020/02/11/nielsen-streaming-wars-total-audience-report/>) (noting that 93 percent of U.S. consumers stated that “they will either increase or keep their existing streaming services.”).

⁵⁶ Toni Fitzgerald, “How Many Streaming Video Services Does the Average Person Subscribe To?” *Forbes* (March 29, 2019) (available at <https://www.forbes.com/sites/tonifitzgerald/2019/03/29/how-many-streaming-video-services-does-the-average-person-subscribe-to/#5f6dae156301>); Netflix, “Long-Term View,” (available at <https://www.netflixinvestor.com/ir-overview/long-term-view/default.aspx>) (“Many people will subscribe to both HBO and Netflix since we have different exclusive content.”).

⁵⁷ Ben Munson, “Deeper Dive—Is Netflix’s Domestic Subscriber Growth Accelerating?” *FierceVideo* (June 17, 2020) (available at <https://www.fiercevideo.com/video/deeper-dive-netflix-s-domestic-subscriber-growth-accelerating>).

Disney+, which launched in November 2019, added 25.2 million subscribers by the end of 2019 and an additional 32.3 million subscribers in the first two quarters of 2020.⁵⁸

**FIGURE 1:
MAJOR U.S. OVD SUBSCRIBERS (MILLIONS)
2015-2019**

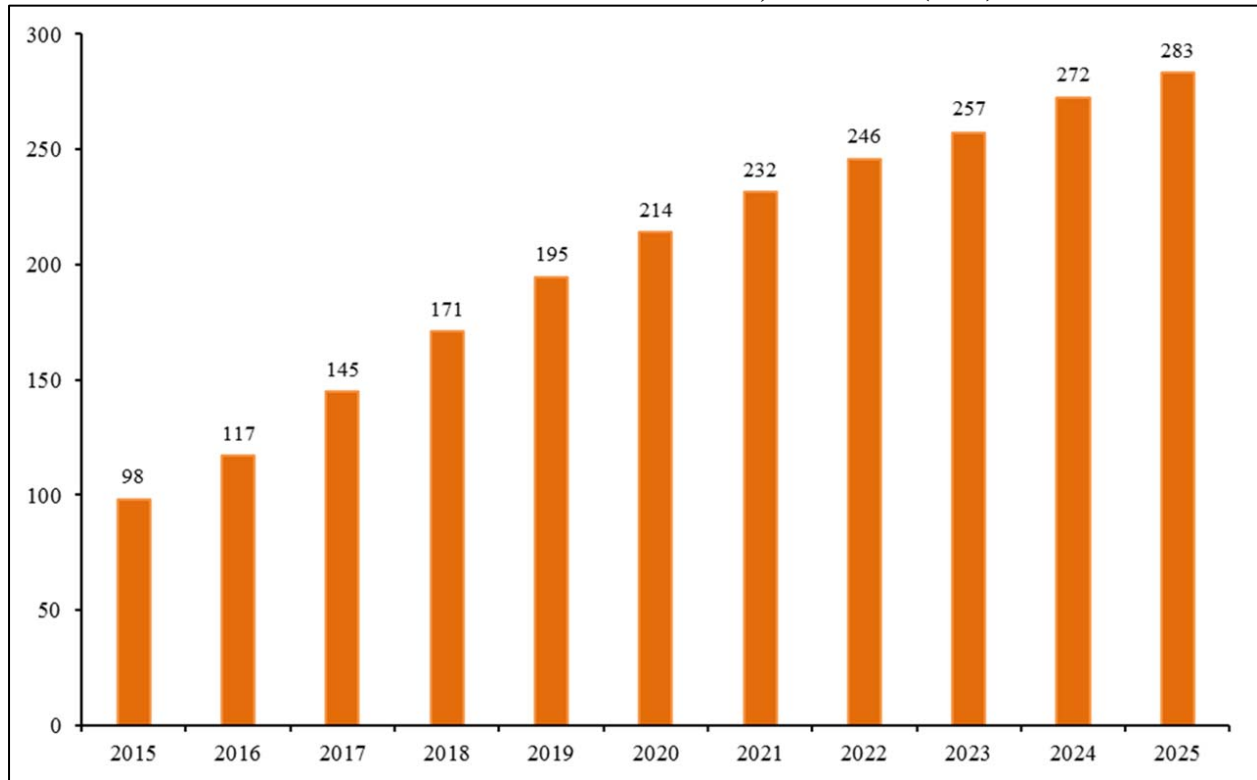


Source: S&P Global, “Q1 2020 U.S. Top Video Provider Rankings” (July 16, 2020) (available at <https://www.snl.com/web/client?auth=inherit&ignoreIDMContext=1#news/docviewer?KeyProductLinkType=2&mid=140808383>). Note: Values reflect Q4 subscribers.

31. As shown in Figure 2, overall OVD subscribership is also growing rapidly: S&P Global estimates that aggregate OVD subscribership nearly doubled between 2015 and 2019, growing from 98.2 million in 2015 to 194.7 million in 2019.

⁵⁸ See Todd Haselton, “Disney Shares Jump as Disney+ Subscriptions Pass 50 Million,” *CNBC* (April 9, 2020) (available at <https://www.cnn.com/2020/04/08/disney-plus-hits-50-million-subscribers-almost-double-from-february.html>); The Walt Disney Company, “Third Quarter and Nine Months Earnings for Fiscal 2020,” (available at <https://thewaltdisneycompany.com/app/uploads/2020/08/q3-fy20-earnings.pdf>); Anthony Ha, “Disney+ Grows to More than 60.5 Million Subscribers,” *TechCrunch* (August 4, 2020) (available at <https://techcrunch.com/2020/08/04/disney-grows-to-more-than-60-5m-subscribers/>).

FIGURE 2:
U.S. AGGREGATE OVD SUBSCRIBERS, 2015-2025 (EST.)



Sources: S&P Global, *U.S. Online Video Projections* (available at <https://platform.marketintelligence.spglobal.com/web/client?auth=inherit#news/docviewer?id=54218028>). Note: 2019-2025 figures are estimates.

32. As the figure also shows, S&P Global expects the rapid pace of growth to continue, with OVD subscribership growing by 45 percent, to 283 million, by 2025.

B. OVD Services are Economic Complements to Charter’s Broadband Service

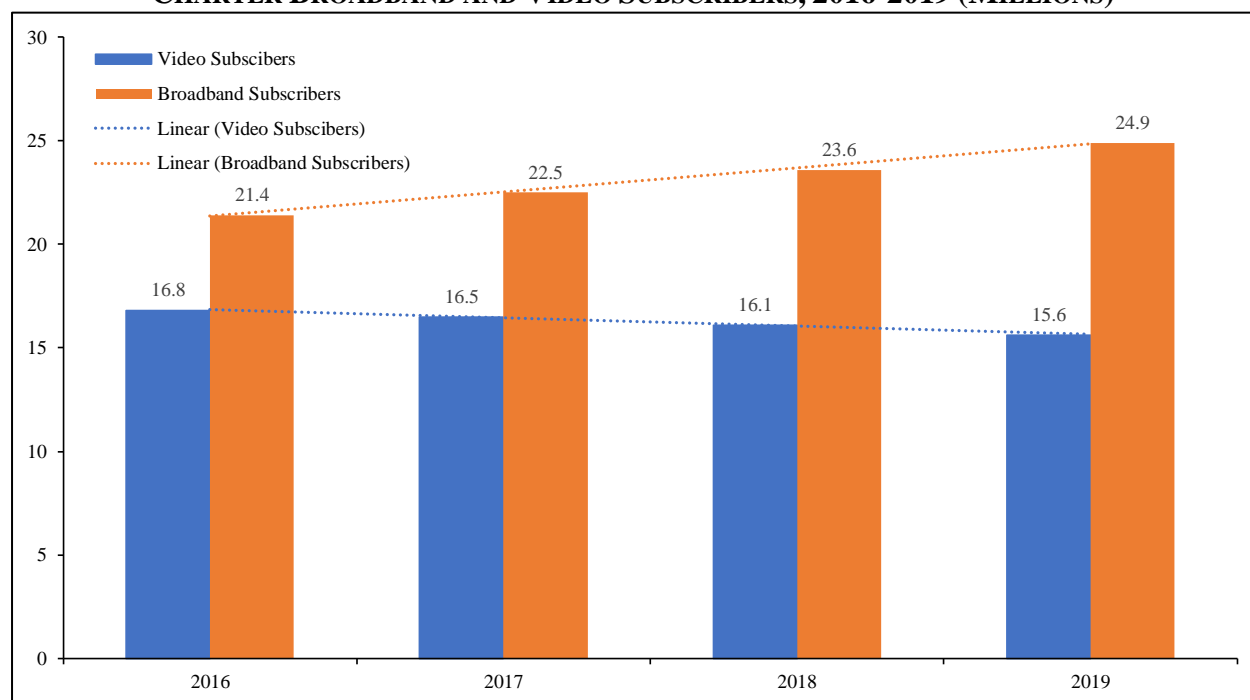
33. As the Commission has recognized, OVD services are economic complements to the Internet access services provided by Charter and other MVPDs.⁵⁹ Indeed, as Charter predicted in 2016,⁶⁰ broadband has become an increasingly important component of its business, while video

⁵⁹ See e.g., *Restoring Internet Freedom* (2018) at ¶117. (“The content and applications produced by edge providers often complement the broadband Internet access service sold by ISPs, and ISPs themselves recognize that their businesses depend on their customers’ demand for edge content.”) See also Federal Communications Commission, *In the Matter of Communications Marketplace Report et al., Report*, GN Docket No.18-231 *et al.* (December 26, 2018) at ¶¶114-115.

⁶⁰ *Charter Time Warner Order* (2016) at ¶¶ 40, 78.

services have declined. As shown in Figure 3, between 2016 and 2019, the number of residential video subscribers declined from 16.8 million to 15.6 million, while broadband subscribership increased from 21.4 million to 24.9 million. In other words, the ratio of broadband subscriptions to video subscriptions rose from 1.3:1 in 2016 to 1.6:1 in 2019. Further, the company reports that broadband sales drive sales for its other offerings (video and mobile), not the other way around.⁶¹

FIGURE 3:
CHARTER BROADBAND AND VIDEO SUBSCRIBERS, 2016-2019 (MILLIONS)



Sources: Charter Communications, Inc., Form 10-K for the Fiscal Year Ended December 31, 2019 (January 31, 2020) at 3; Charter Communications, Inc., Form 10-K for the Fiscal Year Ended December 31, 2018 (January 31, 2019) at 4; Charter Communications, Inc., Form 10-K for the Fiscal Year Ended December 31, 2017 (February 2, 2018) at 3; Charter Communications, Inc., Form 10-K for the Fiscal Year Ended December 31, 2016 (February 16, 2017) at 5.

34. Charter’s incentives are also affected by the relative profitability of its video and broadband businesses. While the company does not publicly report profit margins for the two segments, it

⁶¹ See Charter Q2 2020 Earnings Transcript (July 31, 2020) at 4 (“Moving back to Q2 results, we added 100,000 video and 40,000 voice customers, both of which benefited from significant broadband sales in the quarter.... As we look out for the rest of the year, we expect our broadband and mobile products to continue to drive demand.”).

has said publicly that the profitability of its video services has been adversely affected by increases in programming costs. Specifically, in its 2019 10-K filing, the company reported:

Over the past several years, increases in our video service rates have not fully offset the increases in our programming costs, and with the impact of increasing competition and other marketplace factors, we do not expect the increases in our video service rates to fully offset the increase in our programming costs for the foreseeable future. Although we pass along a portion of amounts paid for retransmission consent to the majority of our customers, our inability to fully pass programming cost increases on to our video customers has had, and is expected in the future to have, an adverse impact on our cash flow and operating margins associated with our video product.⁶²

35. Under these circumstances, it is unsurprising that Charter actively promotes its broadband services, including the streaming services provided by OVDs, that drive consumer broadband adoption. Indeed, as shown in Figure 4, Charter presents itself to customers visiting its website first and foremost as an Internet provider that allows consumers to stream TV.⁶³

**FIGURE 4:
CHARTER (SPECTRUM) WEBSITE**



Source: Charter/Spectrum Website (viewed July 30, 2020).

⁶² Charter Communications, Inc., *Form 10-K for the Year Ended December 31, 2019* (January 31, 2020) at 8.

⁶³ Charter's recent investments in upgrading its broadband networks also reflect the primacy of its broadband business segment. Since 2016, Charter has invested more than \$34 billion in broadband infrastructure and technology, resulting in an increase in its maximum download speeds to 1 Gbps over the majority of its network. *Charter Sunset Petition* at 19.

36. Charter’s commitment to its broadband-centric business model is not new. During the merger approval proceedings, Charter emphasized that “the new firm’s focus on broadband implies that it would not harm OVDs but would instead use its broadband business to promote OVDs and other edge providers.”⁶⁴ The Commission concluded, however, that though there was little evidence that Charter had attempted to discriminate against OVDs in the past, OVDs like Netflix and Amazon Prime “are increasingly competing with portions of the MVPD programming bundle by distributing more original programming, thus making Charter’s past actions towards them less predictive of New Charter’s future actions.”⁶⁵ Evidence demonstrates, however, that major MPVDs (including Charter) have taken steps to integrate OVDs directly into their own services, and actively market access to OVDs as selling points for their own offerings.

37. For example, Charter has integrated Netflix directly into its “Spectrum Guide,” so that Charter/Spectrum subscribers who also have a Netflix subscription can access Netflix content directly through Charter’s interface.⁶⁶ In May 2020, Charter made HBO MAX available to its customers on launch,⁶⁷ and is considering integrating additional OVD apps going forward.⁶⁸ Charter’s integration and promotion of OVDs is the very definition of economic complementarity

⁶⁴ *Charter Time Warner Order (2016)* at ¶¶40, 78.

⁶⁵ *Id.* at ¶41.

⁶⁶ Spectrum, “Netflix on Spectrum Guide,” (available at <https://www.spectrum.net/support/tv/netflix-spectrum-guide/>); Ian Olgeirson, Tony Lenoir, Ali Choukeir & Neil Barbour, “Options, Competition Ramp Pressure on Multichannel in U.S. Video Forecast,” *S&P Global Market Intelligence* (May 6, 2019) (available at <https://www.snl.com/web/client?auth=inherit&overridecdc=1&#news/article?KeyProductLinkType=2&id=51492151>) (highlighting “the integrated access of Netflix Inc.’s Netflix or even Walt Disney Co.’s Disney+ on the set-top.”).

⁶⁷ Jess Barnes, “HBO MAX Will Be Available to Charter Customers at Launch,” *Cord Cutters News* (April 15, 2020) (available at <https://www.cordcuttersnews.com/hbo-max-will-be-available-to-charter-customers-at-launch/>).

⁶⁸ Amrita Khalid, “Charter Will Integrate Hulu and Disney+ Into its Set-Top Boxes,” *Engadget* (August 14, 2019) (available at <https://www.engadget.com/2019/08/14/disney-and-charter-have-reached-a-multi-year-distributiondeal>); Spectrum Support, “TV Channel Apps,” (available at <https://www.spectrum.net/support/tv/tv-channel-apps>).

– *i.e.*, the joint provision of services (broadband and streaming video) which together generate value for consumers.

38. Importantly, Charter’s decision to integrate OVDs cannot be attributed to the Conditions, as other major MVPDs (which are not subject to the Conditions) are also actively marketing Amazon, Disney+, Netflix, YouTube TV, and other OVDs through their own platforms. For example, Comcast Xfinity Flex and X1 customers have direct access to Amazon Prime Video, Hulu, Netflix, Peacock and YouTube (among others) through the Xfinity interface.⁶⁹ Similarly, Cox subscribers can access OVD services through the Contour service.⁷⁰ In May 2020, Verizon announced that new FiOS fiber subscribers would get 12 months of Hulu free (in addition to the free year of Disney+ already made available to new FiOS and mobile phone customers).⁷¹ Examples of MVPDs’ integration of OVD services, taken from the MVPDs’ web sites, is presented in Appendix B.

39. Lastly, Charter is, if anything, less likely to discriminate against OVDs than other MVPDs because it does not own significant stakes in nationwide broadcast or cable programming,⁷² in contrast to other MVPDs, like Comcast (which owns NBC)⁷³ and AT&T (which owns Turner (CNN, TNT, TBS) as well as HBO and Warner Bros. Studios).⁷⁴ Thus, Charter has no incentive

⁶⁹ Comcast, “Comcast Brings Hulu to Xfinity Flex and X1 Customers,” (May 19, 2020) (available at <https://corporate.comcast.com/stories/comcast-brings-hulu-to-xfinity-flex-and-x1-customers>).

⁷⁰ Cox, “Contour Stream Player” (available at <https://www.cox.com/residential/tv/learn/contour-stream.html>).

⁷¹ Jon Lafayette, “New FiOS Subs Get Hulu as Well as Disney Plus,” *Multichannel News* (July 2, 2020) (available at <https://www.multichannel.com/news/new-fios-subs-get-hulu-as-well-as-disney-plus>).

⁷² Post-merger, Charter controls a small interest in the MLB Network, as well as several regional sports networks (“RSNs”) previously controlled by TWC. The Commission concluded that “New Charter’s control of Time Warner Cable’s RSNs” and its interest in the MLB Network was “not likely to harm competition *Charter Time Warner Order* (2016) at ¶¶166, 172.

⁷³ Rani Molla & Peter Kafka, “Here’s Who Owns Everything in Big Media Today,” *Vox* (December 5, 2019) (available at <https://www.vox.com/2018/1/23/16905844/media-landscape-verizon-amazon-comcast-disney-fox-relationships-chart>).

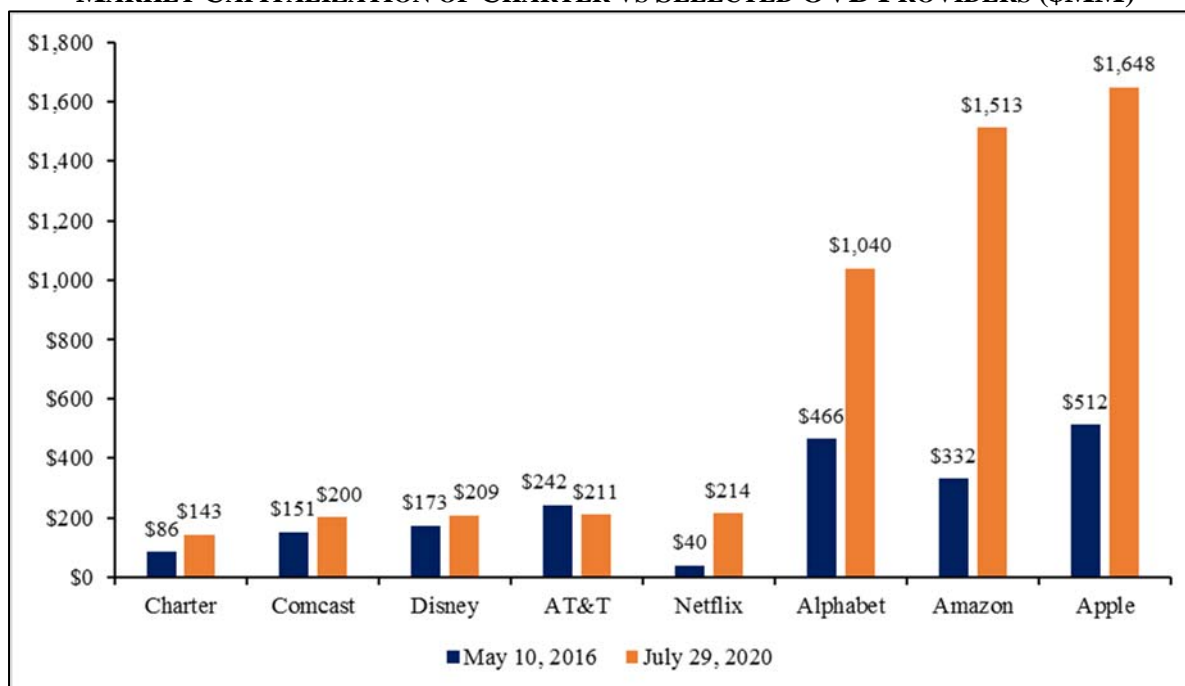
⁷⁴ *Id.*

to promote its own programming over the programming of OVDs like Amazon, Apple, Disney or Netflix.

C. OVDs are Not Vulnerable to Exclusion

40. The growth and commercial success of OVDs since the Transaction was approved four years ago demonstrates without doubt that the Commission’s concerns about MVPDs’ incentives and ability effectively to exclude them have not been borne out by events – despite the fact that MVPDs other than Charter have been free to engage in the conduct prohibited to Charter by the Conditions. Today, there is no question that OVDs are in a strong position vis-à-vis MVPDs. From an economic perspective, it is simply not plausible that Charter (or any MVPD) could inflict meaningful competitive harm on the OVD sector. Indeed, as shown in Figure 5, the market capitalizations of the firms that operate major OVDs far exceed those of Charter Communications.

FIGURE 5:
MARKET CAPITALIZATION OF CHARTER VS SELECTED OVD PROVIDERS (\$MM)



Source: Factset. Notes: The Commission approved the Transaction on May 10, 2016. Charter’s May 10, 2016 market capitalization represents the combined market capitalizations of Charter and TWC on that date.

41. In its 2018 *Restoring Internet Freedom Order*, the FCC acknowledged that major OVDs would be unlikely to accept discrimination by an ISP.⁷⁵ The Commission also noted that “there is ample evidence that major edge providers, including Netflix, YouTube, and other large OVDs, are some of the ‘most-loved’ brands in the world,”⁷⁶ and continued to note that “[t]heir reputations and the importance of reputation to their business and brand gives them significant incentive to inform consumers and work to shape consumer perceptions in the event of any dispute with ISPs.”⁷⁷

42. Based on the evidence reviewed above, it is clear that OVDs have grown rapidly and are expected to continue to do so, and that MVPDs view OVDs as complements for their broadband services. Even if MVPDs once had the incentive and ability to discriminate successfully against OVDs, it is clear they no longer do.

IV. THE BROADBAND MARKETPLACE IS GROWING AND COMPETITIVE

43. In this section, I present evidence that broadband penetration is increasing and that consumers have a growing array of choices for how they access streaming video over the Internet. Specifically, mobile broadband has already begun to substitute for fixed broadband for viewing online video, and competition for the provision of fixed broadband is increasing and will increase further with the rollout of 5G networks by mobile operators T-Mobile and Verizon. In my opinion,

⁷⁵ As the Commission recently explained, “larger edge providers, such as Amazon, Facebook, Google and Microsoft, likely have significant advantages that would reduce the prospect of inefficient outcomes due to ISP market power. For example, the market capitalization of the smallest of these five companies, Amazon, is more than twice that of the largest ISP, Comcast, and the market capitalization of Google alone is greater than every cable company in America combined. Action by these larger edge providers preventing or reducing the use of ISP market power could spill over to smaller edge providers, and in any case, is unlikely to anticompetitively harm them given existing antitrust protections (since arrangements between an ISP and a large established edge provider must be consistent with antitrust law). Consequently, any market power even the largest ISPs have over access to end users is limited in the extent it can distort edge provider decisions (or those of their end users).” See *Restoring Internet Freedom (2018)* at ¶134.

⁷⁶ *Id.* at ¶171.

⁷⁷ *Id.* at ¶171.

these changes make it even less likely that Charter (or any other MVPD) has the ability to slow the growth or hinder the success of OVDs.

A. Mobile Broadband is Already Substituting for Fixed Broadband

44. Data indicate that many consumers now view mobile broadband as a relatively close substitute for fixed broadband.⁷⁸ For example, a 2018 survey of 10,000 Americans by the Internet Innovation Alliance found that “[c]onsumer preferences have changed in the highly competitive market for broadband services, and that today’s consumers see mobile and fixed broadband services as ‘functional substitutes’ for each other.”⁷⁹

45. Additional evidence supports the assertion that a growing number of customers are “cutting the cord,” and substituting mobile broadband for fixed broadband in the home. This shift toward mobile broadband is reflective of the general proliferation of smartphones and other mobile devices, such as tablets, among U.S. consumers. For example, a 2019 survey by Pew Research found that “the share of Americans who say they own a smartphone has increased dramatically over the past decade – from 35% in 2011 to 81% in 2019,”⁸⁰ adding further that “the way many people go online is markedly different than in previous years.”⁸¹ Specifically, in 2019, 37 percent of adults surveyed by Pew said “that they mostly use a smartphone when accessing the internet.”⁸²

⁷⁸ Federal Communications Commission, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, 2020 Broadband Deployment Report*, GN Docket No. 19-285 (April 24, 2020) (hereafter *FCC Broadband Report (2020)*) at ¶11 (“The record before us provides some evidence that consumers increasingly rely on mobile broadband for accessing and sharing information, and they can substitute fixed and mobile broadband when accessing certain services and applications (such as e-mail or social media, for example).”).

⁷⁹ IIA, “Evolving Preferences: Consumer Preferences Tilting Towards Mobile Broadband,” *Internet Innovation Alliance* (June 17, 2018) (available at https://ecfsapi.fcc.gov/file/1071750266545/180716_IIA_ConsumerPreferences_Whitepaper_06.pdf).

⁸⁰ Monica Anderson, “Mobile Technology and Home Broadband 2019,” *Pew Research* (June 13, 2019) (available at <https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/>).

⁸¹ *Id.*

⁸² *Id.* (While 37 percent of all U.S. adults reported that they mostly go online using their smartphones, the percentages for younger Americans were even higher. For example, Pew reported that 58 percent of respondents ages

Pew reported that access to mobile broadband “is increasingly cited as a reason for not having a high-speed internet connection at home.”⁸³

46. Increasingly, consumers – especially younger ones – are using mobile broadband to view video programming. For example, data from Nielsen’s Q12019 *Total Audience Report* indicated that U.S. adults spent an average of 3 hours and 1 minute per day viewing content (through either the web or an app) on a smartphone,⁸⁴ an increase from one hour and 39 minutes in Q12016.⁸⁵

47. In my opinion, the ability of OVDs to reach consumers through mobile wireless connections reduces the ability of wireline MVPDs like Charter to foreclose access to OVD customers, even if they had an incentive to do so.

B. Fixed Residential Broadband Penetration is Growing and Competition is Increasing

48. The ability of Charter and other MVPDs to successfully discriminate against OVDs is also declining as a result of the rapid acceleration of broadband penetration and increasing competition in the market for broadband services.

49. To begin, the ability of an MVPD successfully to discriminate against OVDs depends in part on whether it can, by restricting access to its subscribers, prevent OVDs from achieving minimum efficient scale – *i.e.*, to reduce the size of OVDs’ total addressable market. Thus, it is significant that the proportion of U.S. households with high-speed broadband connections (which

18-29 reported primarily using a smartphone to access the internet, while 47 percent of those ages 30-49 reported the same).

⁸³ *Id.* (“Indeed, mobile devices are not simply being used more often to go online – some Americans are forgoing traditional broadband at home altogether in favor of their smartphone. A majority of adults say they subscribe to home broadband, but about one-in-four (27%) do not. And growing shares of these non-adopters cite their mobile phone as a reason for not subscribing to these services.” Pew also found that “a plurality of smartphone owners now say they mostly use their phone – and not a computer – to go on the internet.”).

⁸⁴ All Access, “Nielsen’s ‘Total Audience Report’ for Q12019 Has Solid News for Radio,” (July 1, 2019) (available at <https://www.allaccess.com/net-news/archive/story/187552/nielsen-s-total-audience-report-for-q1-2019-has-so>).

⁸⁵ *Nielsen Audience Report 2017.*

defines the addressable market of the OVDs) has increased significantly since the Transaction was approved. As the Commission recently noted, “more Americans than ever before have access to high-speed broadband,”⁸⁶ and “the vast majority of Americans – surpassing 85% – now have access to fixed terrestrial broadband service at 250/25 Mbps, a 47% increase since 2017.”⁸⁷

50. The Commission has also noted growing competition in fixed residential broadband between both large and small ISPs. It recently reported that 6.5 million additional households became covered by fiber broadband in 2019, and that smaller ISPs accounted for 25 percent of new fiber connections.⁸⁸

51. In its 2019 10-K filing, Charter identified several sources of competition to its broadband internet business including, “fiber-to-the-home (“FTTH”), fiber-to-the-node (“FTTN”), DSL and wireless broadband offerings.”⁸⁹ Charter also emphasized competition from AT&T, Frontier FiOS, Verizons FiOS, Wide Open West Finance, LLC, (“WOW”) and Google Fiber, all of which “deliver 1 GBPs broadband speed in at least a portion of their footprints that overlap with our [Charter’s] footprint.”⁹⁰

52. Wireline broadband providers like Charter also face growing competition from wireless ISPs like T-Mobile and Verizon, especially with the rapid deployment of 5G services.⁹¹ As part

⁸⁶ *FCC Broadband Report (2020)* at ¶2.

⁸⁷ *Id.* at ¶2; *Restoring Internet Freedom (2018)* at ¶127 (“Approximately 79 percent of U.S. households are found in census blocks that at least two wireline ISPs report serving, and approximately another 8 percent of households are in census blocks where the unique wireline ISP providing service in the census block faces competition from a rival in 90 percent of the blocks it serves.”).

⁸⁸ *FCC Broadband Report (2020)* at ¶2. AT&T’s net fiber additions increased by 40.7 percent, year-over-year in 2019. AT&T, Inc., *Form 10-K for the Year Ended December 31, 2019* (February 19, 2020) at 33.

⁸⁹ Charter Communications, Inc., *Form 10-K for the Fiscal Year Ended December 31, 2019* (January 31, 2020) at 10.

⁹⁰ *Id.* at 10.

⁹¹ In its 2020 *Broadband Deployment Report*, the Commission noted that “AT&T, Sprint, T-Mobile, and Verizon are also rapidly expanding their 5G capability, with 5G networks in aggregate now covering the majority of the country’s population, especially in urban areas, and more live launches planned for 2020.” *FCC Broadband Report (2020)* at ¶2. Such competition was already occurring using LTE technology. For example, Verizon recently announced the launch of its new LTE Home Internet service, which will provide wireless home broadband to

of its acquisition of Sprint in November 2019, T-Mobile not only committed to widely and rapidly deploy 5G service,⁹² but also to dramatically expand its 5G-based In-Home Broadband Service product to at least 9.6 million Eligible Households within three years following the merger and at least 28.0 million Eligible Households within six years.⁹³ T-Mobile has emphasized that its 5G offerings are specifically designed to compete with fixed residential broadband.⁹⁴

53. Verizon is also using 5G to enter the fixed-broadband market (outside of its FiOS territories, where it already competes with cable operators). In the company's July 2020 earnings call, Verizon CEO Hans Vestberg noted that "Verizon made some bold statements about our deployment of 5G in 2020, all the way from mobile edge computing, 5G Home cities, 5 times more small cells on 5G and some 60 cities on 5G Ultra Wideband as well as a nationwide coverage on 5G with DSS. I'm happy to report we're on track on that and in some cases, even ahead of the plan."⁹⁵ In a July 24, 2020 appearance on CNBC's "Squawk on the Street," Mr. Vestberg further emphasized that Verizon's 5G Home service was intended to be a home "broadband replacement."

households currently unserved by high-speed broadband. Philip Dampier, "Verizon Launches 4G LTE Home Broadband Service Without Data Caps, Starting at \$40 Per Month," *StopTheCap* (July 30, 2020) (available at <https://stopthecap.com/category/issues/wireless-broadband/>).

⁹² It committed deploy 5G services to areas covering 97 percent of U.S. households within three years, and 99 percent within six years. See Federal Communications Commission, *In the Matter of Applications of T-Mobile US, Inc., and Sprint Corporation For Consent to Transfer Control of Licenses and Authorizations, Applications of American H Block Wireless L.L.C., DBSD Corporation, Gamma Acquisition L.L.C., and Manifest Wireless L.L.C. for Extension of Time, Memorandum Opinion and Order, Declaratory Ruling, and Order of Proposed Modification*, WT Docket No. 18-197 (November 5, 2019) at ¶26.

⁹³ *Id.* at ¶281.

⁹⁴ Neville Ray, "Accelerating the Path to #5GforAll," *T-Mobile* (July 21, 2020), (available at <https://www.t-mobile.com/news/network/accelerating-5gforall>) ("With the capacity of the 5G network we're building, we plan to offer T-Mobile Home Internet in more than 50% of U.S. zip codes – many in rural areas where home broadband is too slow.").

⁹⁵ Verizon Communications, Inc., Q2 2020 Earnings Call (July 24, 2020) (Mr. Vestberg went on to emphasize that Verizon's 5G deployment would compete directly with existing fixed residential broadband, noting "And the [Home] self-install, which I have been talking about now for 1.5 years, what excites me is that our customers should now be able to receive the gear, the CPE and be able to install it themselves in a short time frame. It's not down to the times that I have envisioned. I want it to be below 1 hour, but we have come a far way from the 8 hours we started with.").

We are really excited about [5G Home] as a broadband replacement. We are doing self-install. Our customer will be able to order the CT by themselves, set it up and have broadband at the home without having a field tech coming to their home. I think it's just a totally transformative business we're creating. We have said in the second half of this year we'll have our next generation of [CPE] which is the router at home that's going to be more powerful and that's going to make a huge difference. So we're going to have 10-plus markets we're going to launch in the home this quarter. We feel this is a really good solution, and it's a transformative solution, and it's the next generation of giving broadband to everyone that needs it. So it's a totally different business model and we are excited about it.⁹⁶

54. Verizon has announced deployments of its 5G Home ISP service in six cities, Chicago, Detroit, Houston, Indianapolis, Los Angeles, and Sacramento,⁹⁷ and (as Mr. Vestberg indicated) is planning to launch in 10 markets in the third quarter of 2020. The service comes bundled with Disney+ and YouTube TV, a clear indication that it is designed to compete directly with the video offerings of wireline MVPDs like Charter.⁹⁸

55. The continued growth of broadband penetration and the increasing competitiveness of the broadband services marketplace since the Transaction was approved provide further reason to conclude that the Conditions are not necessary to prevent Charter from discriminating successfully against OVDs.

V. THE MERGER CONDITIONS MAY PROHIBIT EFFICIENCY-ENHANCING CONDUCT

56. As demonstrated above, Charter lacks the incentive and ability to use the types of business strategies prohibited by the Conditions to discriminate against, or deter entry and expansion by, OVDs – that is, the evidence demonstrates that the Conditions generate no economic or public

⁹⁶ CNBC, Squawk on the Street, interview with Verizon CEO Hans Vestberg, (July 24, 2020) (available at https://archive.org/details/CNBC_20200724_130000_Squawk_on_the_Street/start/3480/end/3540).

⁹⁷ Verizon, "Verizon 5G Home Internet FAQs" (available at <https://www.verizon.com/support/5g-home-faqs/#which-cities>).

⁹⁸ See Verizon, "Verizon 5G Home Internet" (available at https://www.verizon.com/5g/home/?cmp=KNC-C-HQ-PRO-R-BP-NONE-NONE-2K0PX0-PX-GAW-71700000053648015&gclid=EAIaIQobChMItn6a_vz_6gIVJfC1Ch2cZg12EAAYASABEgI0ffD_BwE&gclsrc=aw.ds).

interest benefits. It is possible, however, that they reduce economic welfare and generate public interest harms. Specifically, the Conditions prevent Charter from even considering practices designed to more efficiently match pricing incentives with costs, thereby increasing total output, raising investment and facilitating more rapid growth of the broadband ecosystem.

A. Data Caps and Usage-Based Pricing Can Prevent Low-Usage Subscribers from Subsidizing High-Usage Subscribers

57. The economic effect of the DC/UBP Condition is to preclude Charter from adopting pricing models that would better align cost-causation with prices by charging very-high volume broadband customers higher prices than low-volume customers.⁹⁹ In essence, the Condition mandates that Charter's low-volume consumers – who likely include entry-level and lower-income households – subsidize high-volume users such as online gamers and users of P2P services,¹⁰⁰ potentially reducing overall broadband penetration.¹⁰¹ Given that DC/UBP practices cannot be explained by anticompetitive motives, the fact (as noted above) that MVPDs like Altice, Comcast, Cox and Verizon have utilized DC/UBP, is *prima facie* evidence that they are economically efficient and

⁹⁹ Daniel A. Lyons, "Internet Policy's Next Frontier: Usage-Based Broadband Pricing," 60(1) Federal Communications Law Journal (2014) 1-45 at 12 (hereafter *Lyons (2014)*) ("Usage-based pricing allows broadband companies to shift more of their network costs onto those who use the network the most. This alternative pricing strategy may prove both more efficient for network providers and more attractive to consumers, particularly those who cannot afford an unlimited flat-rate plan.").

¹⁰⁰ *Id.* at 5 ("By aligning costs more closely with use, usage-based pricing shifts more networks costs onto those customers who use the network the most. Companies can thus avoid forcing light Internet users to subsidize the data-heavy habits of online gamers and movie torrenters."); Christopher S. Yoo, "Network Neutrality and the Economics of Congestion," The Georgetown Law Journal 94(1) (2006) 1847-1908 at 1885 (hereafter *Yoo (2006)*) ("Use of the alternative institutional forms can in fact benefit consumers by effectively lowering the prices paid by low-volume end users. In addition, increasing the economic efficiency of the overall pricing system should lower the prices of basic access, which in turn should increase the number of people able to benefit from the network's services.").

¹⁰¹ *Lyons (2014)* at 4 ("Because price is not tied to online use, consumers have little incentive to economize their bandwidth consumption. Moreover, network costs are spread evenly throughout the customer base, forcing light Internet users to subsidize heavier users' data-intensive lifestyles."); *Id.* at 13 ("Heavier users consume more of the network's total capacity than lighter users, yet light and heavy users contribute equally to cover the network's costs. This means that lighter users pay a higher effective rate per megabyte than heavier users. To put the Commission's concern another way, flat-rate pricing forces below-average users to purchase more broadband access than they use... This disparity could discourage broadband adoption, and limit access to broadband services, particularly among poorer consumers").

increase overall economic welfare. Indeed, usage-based pricing is common in markets where consumption varies significantly among consumers, “even in highly competitive markets, including hotels, computers, automobiles, books, clothing, groceries, restaurants, [and] telecommunications.”¹⁰²

B. Interconnection Fees Facilitate Efficient Network Management

58. The economic evidence also shows that interconnection fees and other alternative Internet traffic exchange arrangements can be economically efficient. Between 2005 and 2015 (in the absence of Title II regulation), the cost of Internet transit fell by over 99 percent (on a cost-per-megabit basis).¹⁰³ In its 2018 *Restoring Internet Freedom Order*, the Commission noted that “there are substantial pro-competition and pro-consumer benefits to alternative Internet traffic exchange arrangements.”¹⁰⁴

59. For example, charging edge providers for access to one side of a two-sided network facilitates an ISP’s ability to reduce congestion, increase speeds, and more efficiently allocate network resources.¹⁰⁵ Interconnection fees may also spur investment by ISPs in network infrastructure, as ISPs can recover a portion of infrastructure investment from both sides of the network (subscribers and edge providers). Alternative interconnection arrangements may also encourage innovation at the edge, as edge providers compete to realize the cost savings from apps/services that consume fewer network resources than those of competitors.¹⁰⁶

¹⁰² Einer Elhauge, “Why Above-Cost Price Cuts To Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power,” *Yale Law Journal* 112(1) (2003) 681-827 at 732-733.

¹⁰³ *Restoring Internet Freedom* (2018) at ¶168.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at ¶169 (“All parties appear to agree that direct interconnection has benefited consumers by reducing congestion, increasing speeds, and housing content closer to consumers, and allowed ISPs to better manage their networks.”).

¹⁰⁶ *Yoo* (2006) at 1883 (“To the extent that it would prohibit networks from charging content and applications providers for higher levels of service, network neutrality would thus threaten to foreclose one of the most innovative solutions to the problems of congestion and delay. Indeed, preventing network owners from pricing bandwidth would

C. The Conditions Create an Uneven Playing Field Between Charter and Its Rivals

60. Finally, the Conditions prohibit Charter – and only Charter – from adopting business strategies that may decrease prices for low-usage customers, increase broadband adoption by lowering the price of basic access, promote efficient network management, and incentivize future infrastructure investment. It has long been understood that such asymmetric regulation inevitably harms competition by artificially raising the costs of some competitors relative to others in ways that are not related to underlying economic factors.¹⁰⁷

VI. CONCLUSIONS

61. Based on the evidence discussed above, I conclude that there is a sound economic basis for allowing the DC/UBP Condition and Interconnection Condition to “sunset” in 2021. The Commission’s stated purpose for imposing the Conditions in the first place – to protect vulnerable OVDs and edge content providers – is no longer valid (if it ever was). In 2020, OVDs are thriving. Moreover, as discussed above, Charter is – as it said in 2016 – first and foremost a broadband services provider and thus lacks the incentive to discriminate against or impede the entry and expansion of OVDs. To the contrary, today, Charter (as well as other MVPDs) competes vigorously for broadband customers in a marketplace where OVDs drive demand for broadband subscriptions. Charter is therefore incentivized to encourage, rather than inhibit, the continued growth of OVD services.

foreclose them from employing the most widely used mechanism for allocating scarce resources in our society. In the process, prohibiting access tiering would have the unintended effect of favoring current industry players whose offerings are not particularly bandwidth-intensive or time sensitive, while impeding the development of new applications whose creators would gladly pay for higher guaranteed throughput rates if given the chance.”).

¹⁰⁷ See generally Robert W. Crandall, J. Gregory Sidak and Hal J. Singer, “The Empirical Case Against Asymmetric Regulation of Broadband Internet Access,” *Berkeley Technology Law Journal* 17;2 (2002) 953-987.



Jeffrey A. Eisenach

8/6/20

Date

APPENDIX A:
CURRICULUM VITAE

JEFFREY A. EISENACH, PH.D.
Managing Director
Co-Chair Communications, Media and Internet Practice

Dr. Eisenach is a Managing Director and Co-Chair of NERA's Communications, Media, and Internet Practice, and serves on the firm's Board of Directors. He is also an Adjunct Professor at George Mason University Law School, where he teaches Regulated Industries, and a Visiting Scholar at the American Enterprise Institute. Previously, Dr. Eisenach has served in senior policy positions at the US Federal Trade Commission and the White House Office of Management and Budget, and taught at Harvard University's Kennedy School of Government and Virginia Polytechnic Institute and State University.

Dr. Eisenach's consulting practice focuses on economic analysis of competition, regulatory, intellectual property and consumer protection issues. He has submitted expert reports and testified in US federal court as well before the Antitrust Division of the U.S. Department of Justice, the Federal Trade Commission, the Copyright Royalty Board, the Federal Communications Commission, the International Trade Commission, US Tax Court, several state public utility commissions, and courts and regulatory bodies in Australia, Canada, the United Kingdom, India, the Caribbean, and South America. He has also advised clients in some of the world's largest information technology sector mergers.

He has written or edited 19 books and monographs, including *Broadband Competition in the Internet Ecosystem* and *Competition, Innovation and the Microsoft Monopoly: Antitrust in the Digital Marketplace*. His writings have also appeared in scholarly journals such as *The Review of Network Economics*, as well as in popular outlets like *Forbes*, *The New York Times*, and *The Wall Street Journal*.

Prior to joining NERA, Dr. Eisenach was a managing director and principal at Navigant Economics, and before that he served as Chairman of Empiris LLC, Criterion Economics, and CapAnalysis, LLC. Among his other previous affiliations, Dr. Eisenach has served as President and Senior Fellow at The Progress & Freedom Foundation; as a scholar the Heritage Foundation, and the Hudson Institute; as a member of the 1980-81 Reagan-Bush Transition Team on the Federal Trade Commission, the 2000-2001 Bush-Cheney Transition Team on the Federal Communications Commission, the Virginia Governor's Commission on E-Communities, and the Virginia Attorney General's Task Force on Identity Theft. In 2016-2017 he led the Trump-Pence Transition Team for the Federal Communications Commission.

Dr. Eisenach received his PhD in economics from the University of Virginia and his BA in economics from Claremont McKenna College.

Education

1985	Ph.D. in Economics, University of Virginia
1979	B.A. in Economics, Claremont McKenna College

Professional Experience

Jan 2014-present	Managing Director/Senior Vice President NERA Economic Consulting
Jan 2010-Jan 2014	Managing Director and Principal, Navigant Economics
Sept 2008-Jan 2010	Chairman and Managing Partner, Empiris LLC
June 2006-Sept 2008	Chairman, Criterion Economics, LLC
July 2005-May 2006	Chairman, The CapAnalysis Group, LLC
Feb 2003-July 2005	Executive Vice Chairman, The CapAnalysis Group, LLC
June 1993-Jan 2003	President, The Progress & Freedom Foundation
July 1991-May 1993	Executive Director, GOPAC
Mar 1988-June 1991	President, Washington Policy Group, Inc.
Sept 1986-Feb 1988	Director of Research, Pete du Pont for President, Inc.
1985-1986	Executive Assistant to the Director, Office of Management and Budget
1984-1985	Special Advisor for Economic Policy and Operations, Office of the Chairman, Federal Trade Commission
1983-1984	Economist, Bureau of Economics, Federal Trade Commission
1981	Special Assistant to James C. Miller III, Office of Management and Budget/Presidential Task Force on Regulatory Relief
1979-1981	Research Associate, American Enterprise Institute
1980	Consultant, Economic Impact Analysts, Inc.
1978	Research Assistant, Potomac International Corporation

Teaching Experience

2000-present	Adjunct Professor, George Mason University School of Law, (Courses Taught: Regulated Industries; Perspectives on Government Regulation; The Law and Economics of the Digital Revolution)
1995-1999	Adjunct Lecturer, Harvard University, John F. Kennedy School of Government, (Course Taught: The Role of Government in the 21st Century)
1989	Adjunct Professor, George Mason University, (Course Taught: Principles of Economics)

1985, 1988	Adjunct Professor, Virginia Polytechnic Institute and State University, (Courses Taught: Graduate Industrial Organization, Principles of Economics)
1983-1984	Instructor, University of Virginia, (Courses Taught: Value Theory, Antitrust Policy)
1982-1983	Teaching Assistant, University of Virginia, (Courses Taught: Graduate Microeconomics, Undergraduate Macroeconomics)

Honors & Professional Activities

2018-present	Member, Board of Directors, NERA Economic Consulting
2016-2017	Leader, Trump-Pence Presidential Transition Team on the Federal Communications Commission
2012-present	Visiting Scholar, American Enterprise Institute
2011-present	Member, Board of Directors, Information Technology & Innovation Foundation
2011-2018	Member of the Board of Directors, Economic Club of Washington (Vice President for Education, 2012-2017)
2010-2011	Member, World Bank ICT Broadband Strategies Toolkit Advisory Group
2009-present	Member, Economic Club of Washington
2008-2009	Member, Board of Directors, PowerGrid Communications
2008-2012	Member, Board of Advisors, Washington Mutual Investors Fund
2002-2014	Member, Board of Advisors, Pew Project on the Internet and American Life
1993-2009	Member, Board of Directors, The Progress & Freedom Foundation
2002	Member, Attorney General's Identity Theft Task Force, Virginia
2002-2003	Member of the Board of Directors, Privacilla.com
2001-2004	Member, Executive Board of Advisors, George Mason University Tech Center
2001-2002	Contributing Editor, <i>American Spectator</i>
2001	Member, Transition Advisory Committee on the FCC
2000-2001	Member, Governor's Task Force on E-Communities, State of Virginia
1999-2001	Member, 2000-2001 Networked Economy Summit Advisory Committee
1998-2003	Member, Board of Directors, Internet Education Foundation
1998-2003	Member, Internet Caucus Advisory Committee
1996-2002	Member, American Assembly Leadership Advisory Committee
1995-2000	Member, Commission on America's National Interests

1988-1991	Adjunct Scholar, Hudson Institute
1988-1991	Visiting Fellow, Heritage Foundation
1981-1984	President's Fellowship, University of Virginia
1981-1983	Earhart Foundation Fellowship, University of Virginia
1981	Member, Presidential Transition Team on the Federal Trade Commission
1979	Henry Salvatori Award, Claremont Men's College
1978	Frank W. Taussig Award, Omicron Delta Epsilon

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In the Matter of Review of the Commission's Program Access Rules and Examination of Programming Tying Arrangements, Federal Communications Commission Docket MB 07-198, Supplemental Report on Behalf of the Walt Disney Company (December 11, 2008)

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In re: Investigation of Rates of Virgin Islands Telephone Corporation d/b/a Innovative Communications, PSC Docket 578, Direct Testimony on Behalf of Virgin Islands Telephone Corporation (September 26, 2008)

In the Matter of the Appropriate Forms of Regulating Telephone Companies, Maryland Public Service Commission, Case No. 9133, Rebuttal Testimony on Behalf of Verizon Maryland (September 24, 2008)

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In the Matter of the Constitution of the Co-Operative Republic of Guyana and In the Matter of the application for redress under Article 153 for the contravention of the Applicant's fundamental rights guaranteed by Articles 20, 146, and 149D of the Constitution of the Republic of Guyana and In the Matter of the Telecommunications Act No. 27 of 1990, U-Mobile (Cellular) Inc., v. The Attorney General of Guyana, Expert Report on Behalf of Guyana Telephone and Telegraph Company (June 19, 2008)

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APPENDIX B: INTEGRATION OF OVD SERVICES BY MVPDS

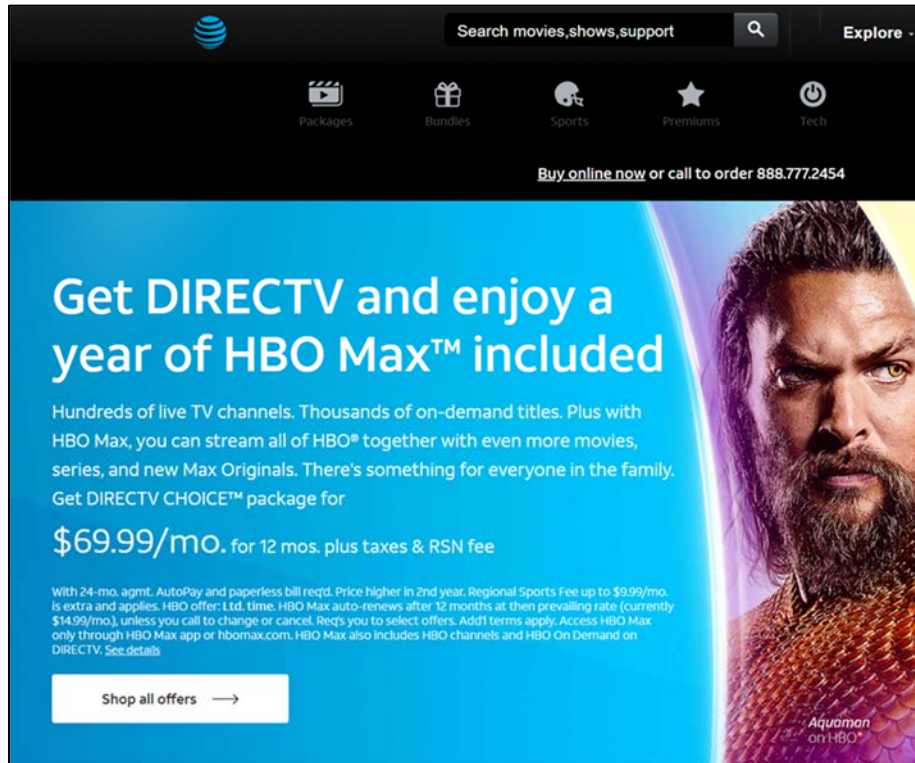
This appendix presents screenshots from MVPD websites showing the extent to which MVPDs actively sell OVD services, such as Amazon Prime, Hulu and Netflix. As the figures show, all of the major U.S. MVPDs integrate or sell OVD services in some form, highlighting the complementary nature of their services.

**FIGURE B-1:
CHARTER (SPECTRUM) WEBSITE**



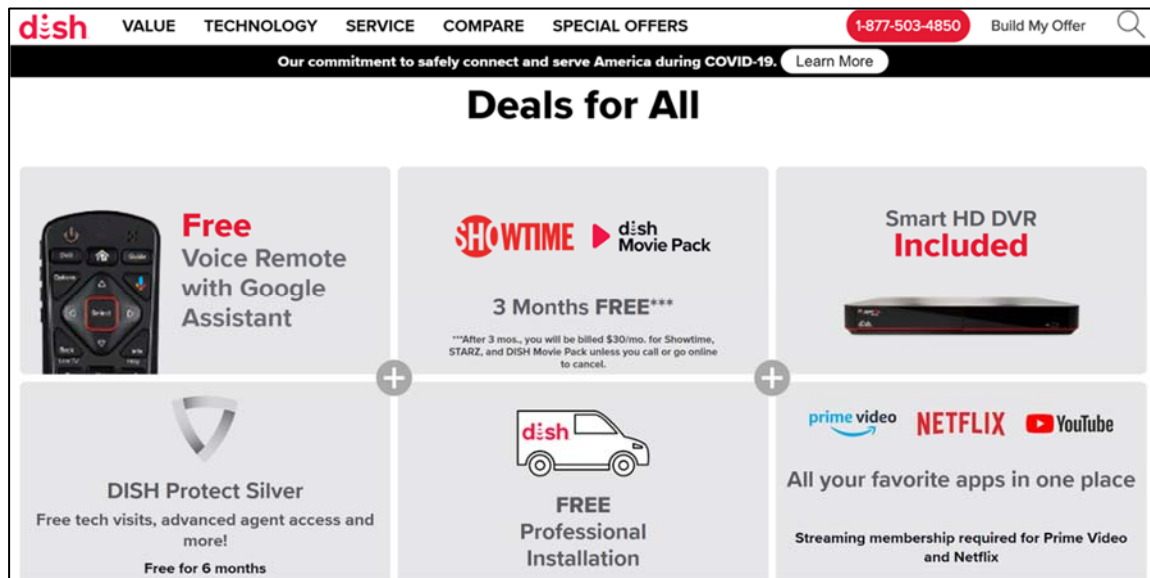
Source: Charter/Spectrum Website (viewed July 30, 2020).

**FIGURE B-2:
DIRECTV**



Source: DirectTV, “Home” (available at <https://www.directv.com/>).

**FIGURE B-3:
DISH**



Source: Dish, “Special Offers” (available at <https://www.dish.com/special-offers/>).

**FIGURE B-4:
VERIZON**

Want Internet? Pick Your Speed.


<p>200 Mbps <input type="checkbox"/></p> <p>Stream and download movies, shows and photos.</p> <hr/> <p>\$39.99 Per month w/ Auto Pay + taxes & equip. charges. Offer details</p> <ul style="list-style-type: none"> 🔗 Disney+ on us for 12 months (\$6.99/mo. after) + Save additional \$10/mo with Unlimited Wireless ⓘ 	<p>400 Mbps <input type="checkbox"/></p> <p>Great for multiple users, binge streaming and sharing large files.</p> <hr/> <p>\$59.99 Per month w/ Auto Pay + taxes & equip. charges. Offer details</p> <ul style="list-style-type: none"> 🔗 Disney+ on us for 12 months (\$6.99/mo. after) 🔗 Hulu on us for 6 months (\$5.99/mo. after) + Save additional \$10/mo with Unlimited Wireless ⓘ 	<p>Gigabit Connection <input type="checkbox"/></p> <p>Ideal for a virtually seamless entertainment experience. Up to 940/880 Mbps.</p> <hr/> <p>\$79.99 Per month w/ Auto Pay + taxes. Offer details</p> <ul style="list-style-type: none"> 🔗 Disney+ on us for 12 months (\$6.99/mo. after) 🔗 Hulu on us for 12 months (\$5.99/mo. after) 🔗 Free Stream TV 🔗 Router rental included + Save additional \$20/mo with Unlimited Wireless ⓘ
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Want TV? Pick a Fios TV package or stream with YouTube TV.


Source: Verizon, “Fios TV Plans” (available at <https://www.verizon.com/home/fiostv/>).

**FIGURE B-5:
COX**

All the action. All on Contour TV.



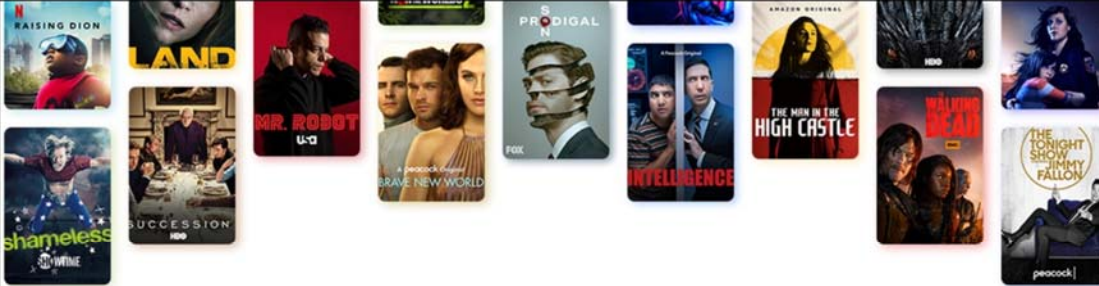
Streaming apps
Stream your favorite shows anytime, anywhere.
[See all apps >](#)



Live TV and more
Live TV, sports, On Demand™ and all your favorite shows.
[See all channels >](#)

Source: Cox Communications, “Cox Contour TV” (available at <https://www.cox.com/residential/tv.html>).

FIGURE B-6:
XFINITY/COMCAST



Movies and shows. The way
you actually watch them.

Xfinity has entertainment to fit every need, want, and watchlist. Now with access to the Peacock Premium streaming service from NBCUniversal, at no extra cost.

Source: Xfinity, "Digital Cable TV" (available at <https://www.xfinity.com/learn/digital-cable-tv>).